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MANUFACTURERS RECORD

A Weekly Newspaper Devoted to the Industrial, Financial, Railroad,
Mining, Contracting, Engineering, Building, and General
Business Interests of the South and Southwest

Vol. 67
No. 8

ESTABLISHED 1882

\$4.00 Per Year
Single Copy 15 Cents

Age-Long Wisdom Always Timely

Pride goeth before destruction and a haughty spirit
before a fall.

A violent man enticeth his neighbour and leadeth
him into the way that is not good.

Better is a dry morsel and quietness therewith than
a house full of sacrifices with strife.

He that is slow to anger is better than the mighty;
and he that ruleth his spirit than he that taketh a city.

BALTIMORE, FEBRUARY 25, 1915

CLINCHFIELD COAL

CLEAN



LUMPY

"NEVER SHORT OF CARS"

MINED BY
Clinchfield Coal Corporation
DANTE, VA.

SOLD BY
Clinchfield Fuel Company
SPARTANBURG, S. C.

The Only Up-to-Date Way to Get Out **CROSS TIES**
AND SAVE THE WASTE OF STUMPAGE
STANDARD PORTABLE SAW MILLS CO. NEW ORLEANS, LA.

Valk & Murdoch Iron Works
Marine and Stationary Boilers, Phosphate and Fertilizer Machinery
SHEET IRON WORK IRON AND BRASS CASTING
East End of Hazel Street CHARLESTON, SOUTH CAROLINA

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SOUTHERN COPPER WORKS



Repair Work a Specialty and promptly attended to.
Coppersmiths and General Metal Workers. Quotations furnished on large or small orders.

FOUR FACTORIES AT
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Jacksonville, Fla. Fayetteville, N. C.

Seamless Turpentine Stills a Specialty

GEORGIA TALC CO.
MANUFACTURERS OF
TALC AND SOAPSTONE POWDERS
FOUNDRY FACINGS CRAYONS AND PENCILS
Mines at CHATSWORTH, GA. Main Office ASHEVILLE, N. C.

Foster Superheaters
APPLIED TO BOILERS OF ANY TYPE, OLD OR NEW
Uniform Superheat Guaranteed
POWER SPECIALTY COMPANY 111 Broadway, New York

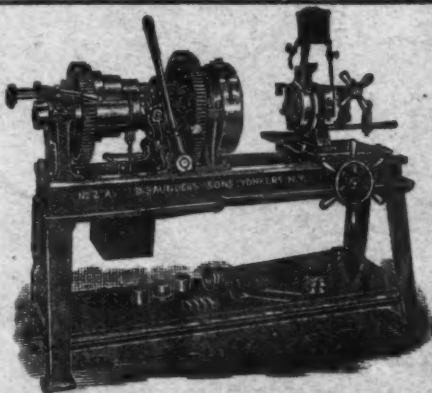
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Machines

All Sizes for Pipe Mills
Gas and Steam Fitters

This cut shows our 2 A Improved Pipe Threading, Cutting and Nipple Machine. Range $\frac{1}{4}$ to 2, inclusive. Pipe can be gripped or loosed without stopping the chuck, by a simple movement of the lever.

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Yonkers, N. Y.



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simplifies
manufacture
and repair of
metal parts

Wherever two or more pieces of metal are to be joined, you will find a profitable use for Oxy-Acetylene Welding. The manufacture of intricate parts is simplified by the economy and convenience of this process. You can reclaim defective castings, correct mistakes in design, and cut production costs by using this process in your shop. Quick repairs of damaged or worn equipment are made "on the spot," with tremendous savings of time, labor and material.

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To get complete efficiency and enjoy the utmost in economy, portability, simplicity and convenience, with good apparatus of any make, use

PREST-O-LITE Dissolved Acetylene (Ready made carbide gas)

Prest-O-Lite Acetylene Service furnishes the highest grade of Dissolved Acetylene in portable cylinders, used as conveniently as you use cylinders of oxygen. Saves the large initial outlay and heavy depreciation, trouble and inconvenience of making crude Acetylene in carbide generators. Besides, Prest-O-Lite Dissolved Acetylene is perfectly dried, cleaned and purified—makes better welds and is cheaper to use.

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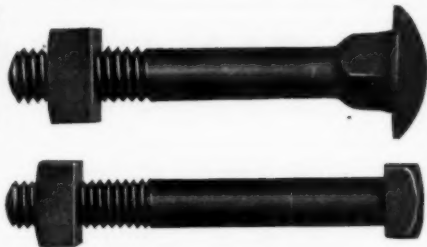
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The World's Largest Makers of Dissolved Acetylene.
53 Direct factory branches and charging plants in principal industrial centers.

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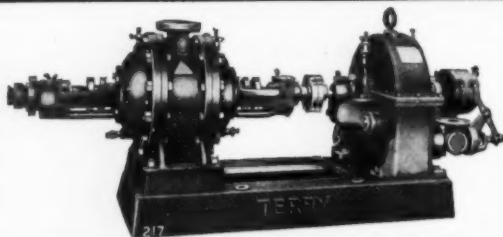
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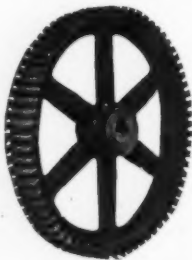
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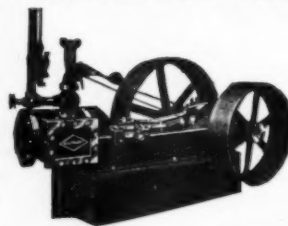
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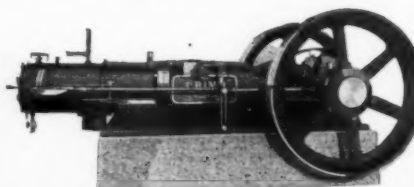
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You save money by using the low grade oils available near your factory.



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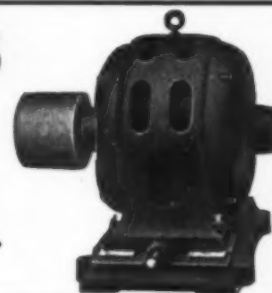
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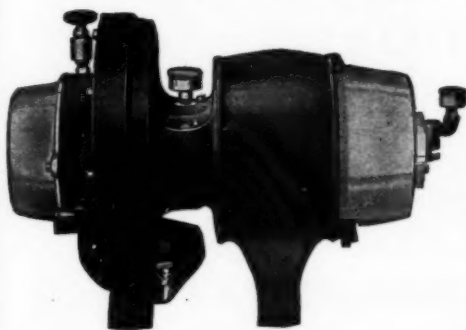
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Operates 35 16 c. p. tungsten incandescent lamps.

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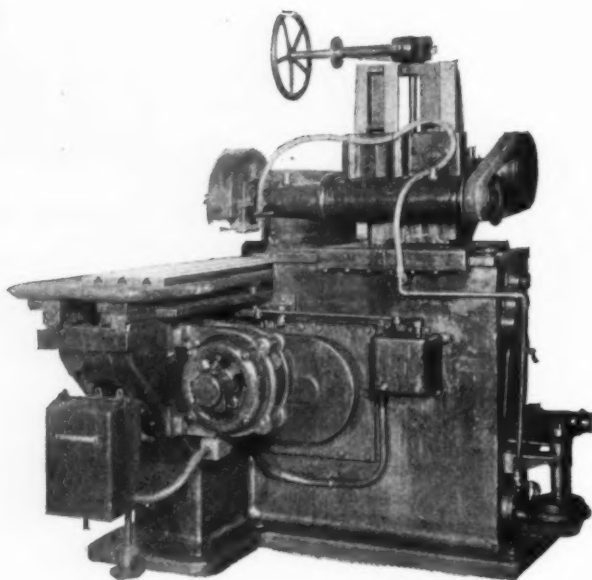
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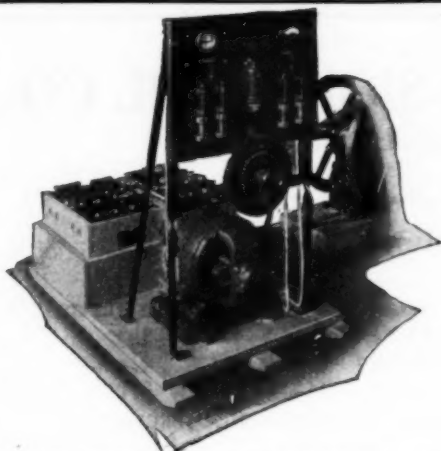
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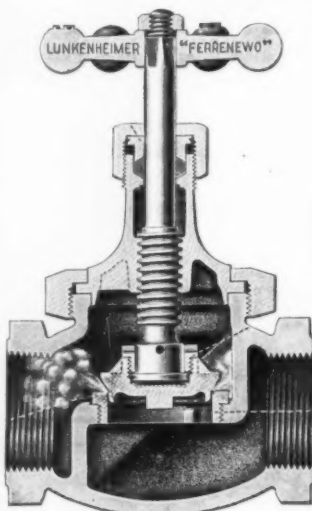
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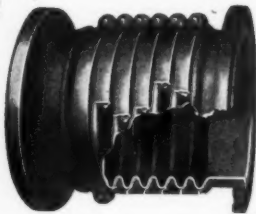
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BADGER Self Equalizing Expansion Joint

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which is fine testimony for the Otis Heater. Within the last 23 years the Barber Asphalt Paving Company of New York City has installed forty heaters in their different Steam Plants. The Otis Heater saves the waste. That's the reason.

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High Grade Firebrick
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MEXICO BRICK & FIRE CLAY CO., MEXICO, MO.

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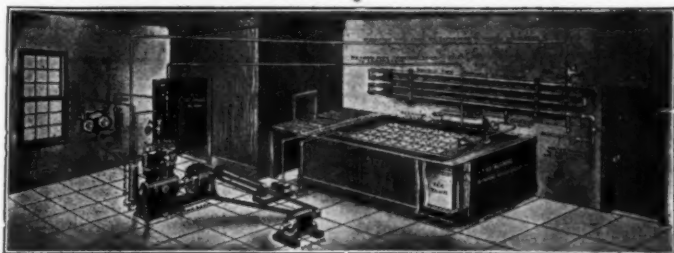
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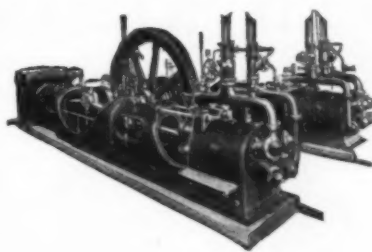
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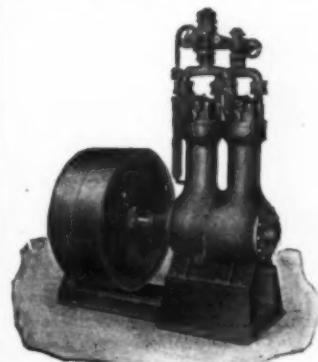
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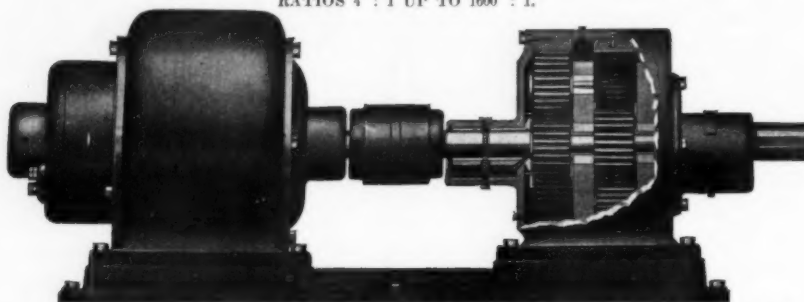
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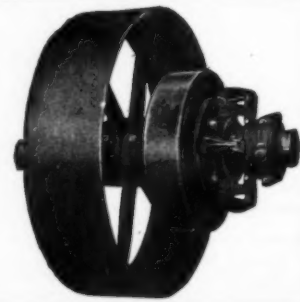


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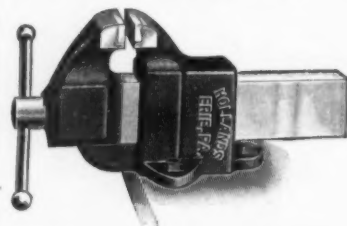
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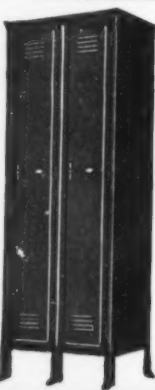
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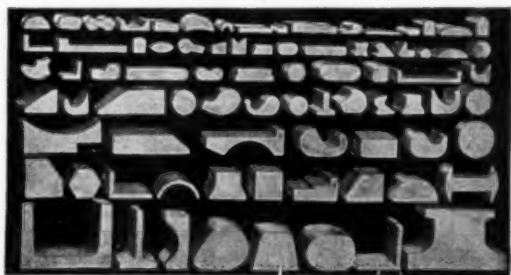
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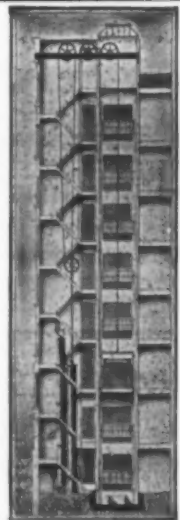
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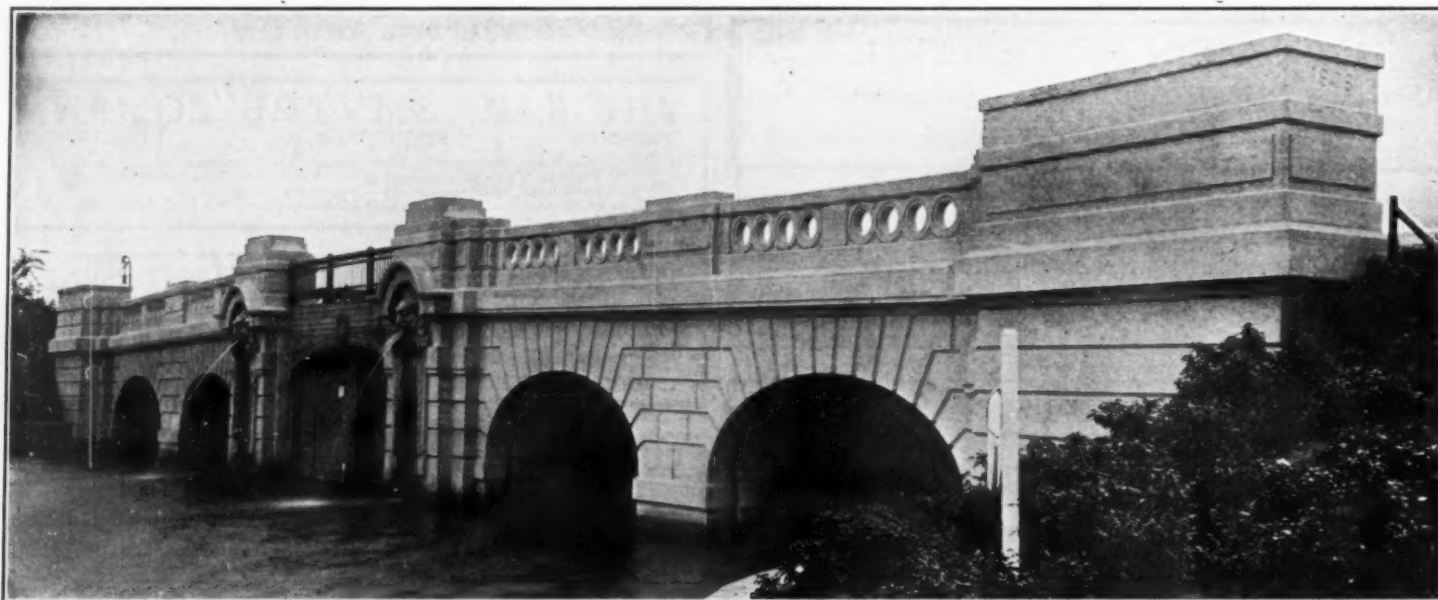
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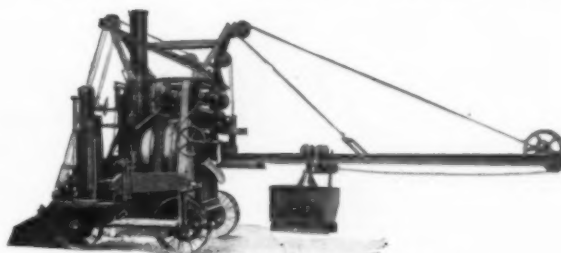
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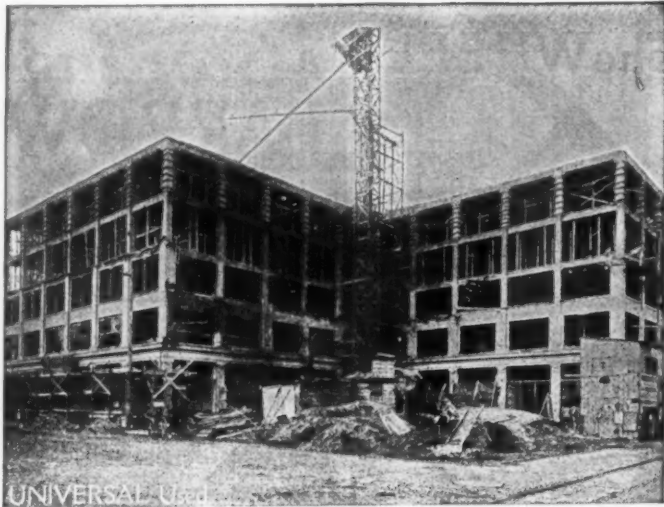
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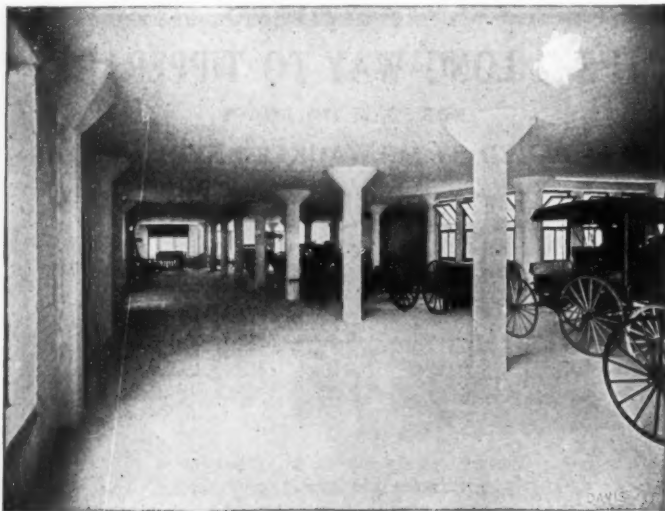


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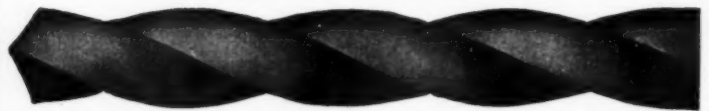
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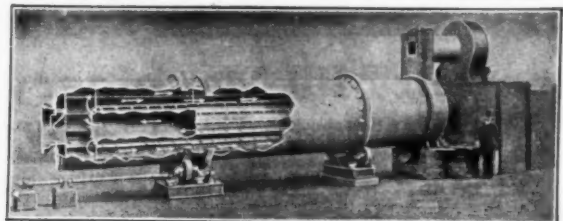
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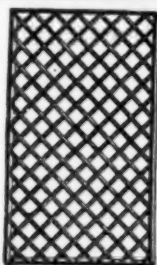
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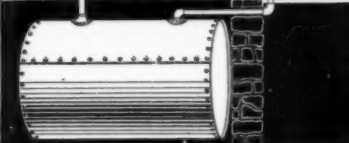
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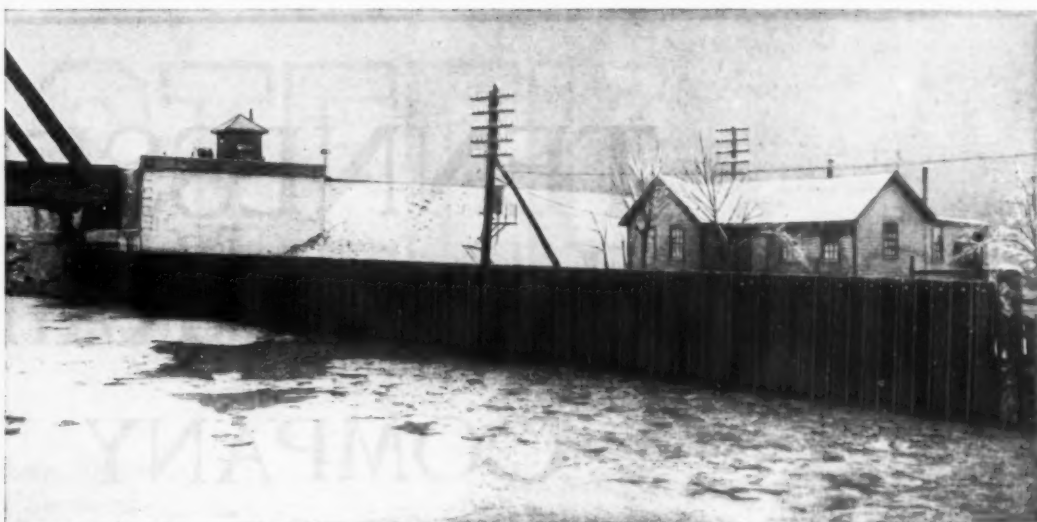
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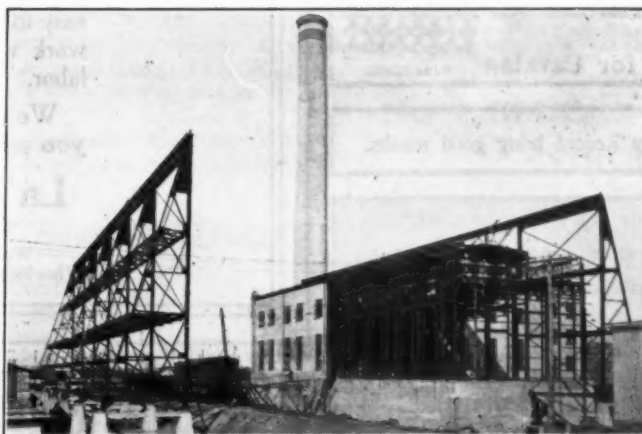
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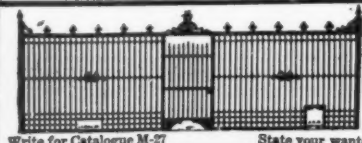
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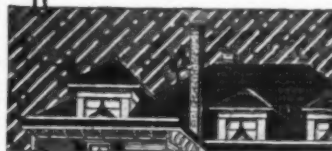
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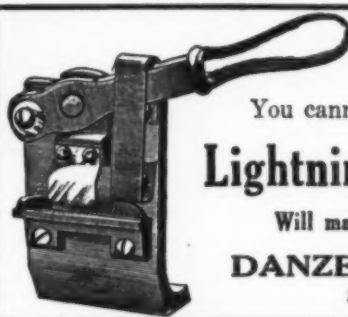
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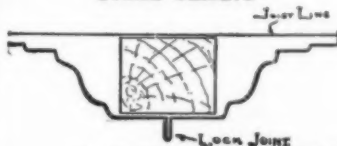
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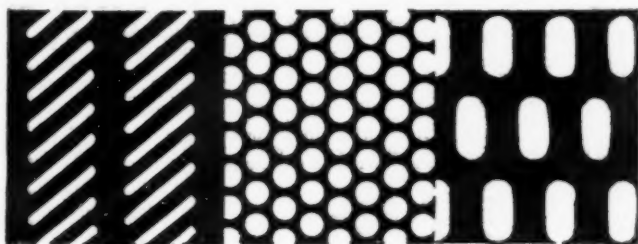
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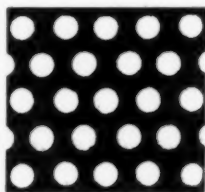
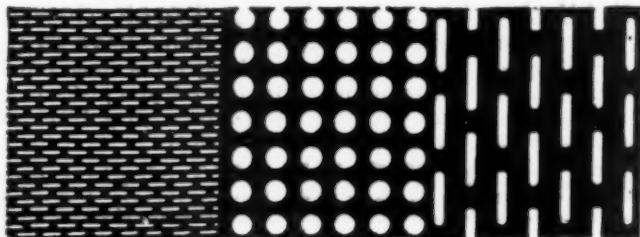
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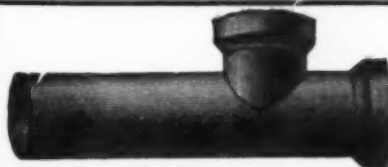
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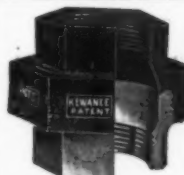
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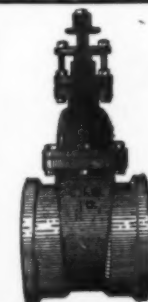
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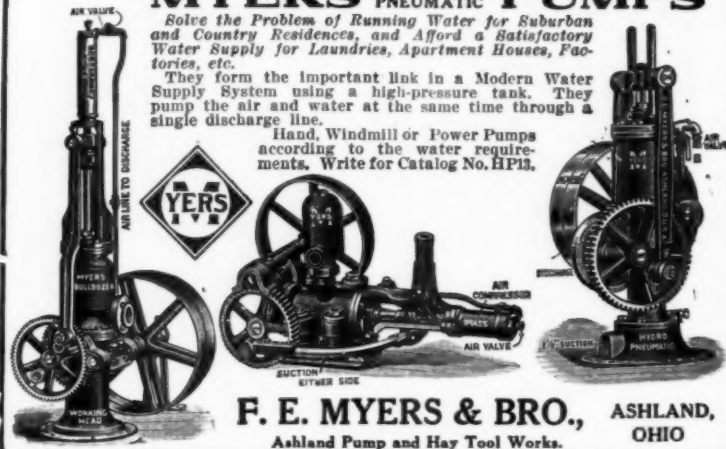
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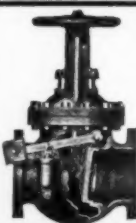
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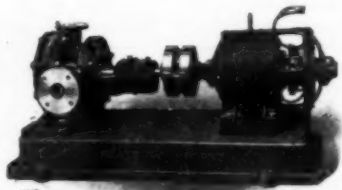
PIPE BENDING A SPECIALTY



"Platt" Single Suction Centrifugal Pumps

are designed and built for the hardest kind of continuous usage. Only the best, carefully-selected material used in their manufacture. We are certain it will be to your advantage to investigate Platt Centrifugal Pumps before buying.

Catalog and full information on request.



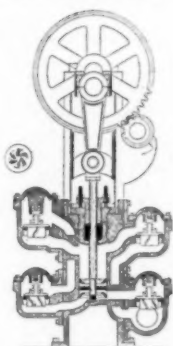
The Platt Iron Works Co.

DAYTON, OHIO

SOUTHERN OFFICES.

1019 Empire Bldg., Atlanta, Ga.
Briggs-Weaver Machinery Co., Dallas, Texas.
C. T. Patterson Co., New Orleans, La.
San Antonio Mach. & Supply Co., San Antonio, Tex.
Hosshall, Simmons Co., Memphis, Tenn.
Morton McL. Dukehart, Baltimore, Md.

EIGHT REASONS FOR Holland Triplex Pump Superiority



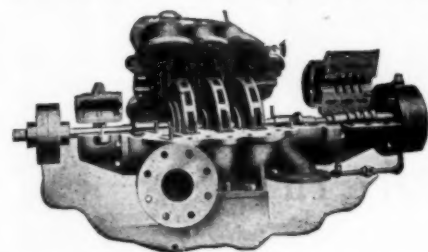
- 1—Straight Line symmetry of design, meaning STRENGTH.
- 2—The only Triplex Pump with a ROTATING VALVE. Never seats twice in the same place!
- 3—Larger valve areas and ports. All curves of longer radius, meaning less FRICTION.
- 4—Less than half the VELOCITY of any other pump.
- 5—Just look at that sectional drawing. Ever see PISTONS of a design like this? They're TOTALLY UNLIKE what you'll find in any other pump. No packing wear; practically no friction in the cylinders.
- 6—All parts INTERCHANGEABLE. Better material and workmanship.
- 7—A genuine, reliable Guarantee, based on actual TESTS.
- 8—The Duplex action of the pistons doubles the frequency, balancing the thrust due to back pressure of column of liquid in delivery pipe, and so guarantees a pulseless delivery by keeping liquid in constant, uniform motion, increasing efficiency. Pump is particularly suitable for specific purposes beyond the capability of any other triplex pump.

Sizes from 25 to 500 gals. a minute. Get in touch with us NOW.

HOLLAND MACHINE COMPANY

412 East 32d Street, NEW YORK

Accessibility of Inside Parts



Is one of the
Important Advantages
of the
Jeaneville Turbine Pump

To learn of the others, send for

Bulletin J36-29

International Steam Pump Co.

Jeaneville Iron Works Plant

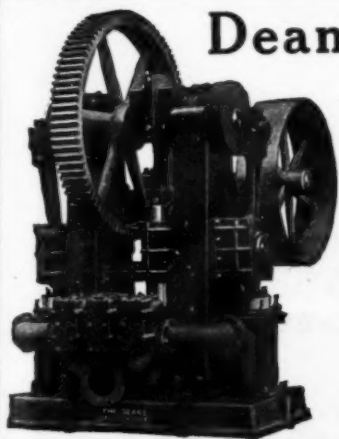
Works: Hazleton, Pa.

New York Office: 115 Broadway

BRANCH OFFICES IN ALL PRINCIPAL CITIES

J153.1

Deane of Holyoke



An inscription to look for when you are looking for

POWER PUMPS

We build the most complete line in the world, which could not be true if we had not been building the right kind right along.

You will be interested in the details given in Bulletin D204-29.

International Steam Pump Co.

Deane Steam Pump Plant

New York Office: 115 Broadway

Works: Holyoke, Mass

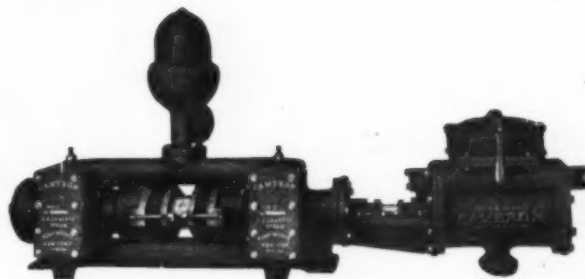
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D235.1

The Slogan of the Cameron—"Character: The Grandest Thing."

READY TO WORK WHEN YOU NEED THEM

Cameron Pumps



The Cameron Outside-Packed Plunger Pump gives unusually efficient service in handling gritty water. It is very durable. No wearing parts in the water cylinder except the packing in the stuffing boxes, which can be instantly adjusted from the outside. No rods, arms or working parts exposed to rust or damage, either from carelessness or accident. As the plunger works in loose sleeves, the pump barrel cannot be cut or worn by grit or sand.

Above all, it is a compact pump, with all parts ready and easy of access, and gives a long life of efficient service at the lowest cost.

More details in Bulletin No. 104. It's free.

A. S. Cameron Steam Pump Works

11 Broadway, NEW YORK

Offices the World Over

CENTRIFUGAL Pumping Machinery and Steam Engines

Specially Designed Pumps for Phosphate Mining, Rice Irrigation, Cotton Mills, Etc.



Write for Catalogue

MORRIS MACHINE WORKS
BALDWINVILLE, N. Y.

NEW YORK OFFICE—39-41 Cortlandt St.

HENION & HUBBELL, Agents, 223-231 North Jefferson Street, Chicago, Ill.

THOMAS B. WHITED, General Manager, Charlotte, N. C.

HARRIS PUMP & SUPPLY CO., Agents, Pittsburg, Pa.

CAMERON & BARKLEY CO., General Agents, Charleston, S. C., and Tampa, Fla.

H. A. PAINE, Agent, Houston, Tex. J. H. MURPHY, Agent, New Orleans, La.

Have You a Water-Power to Develop?

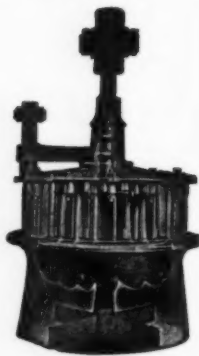
If you are contemplating the development or improvement of a water-power it is to your interest to write us. Our competent hydraulic engineers shall be glad to give you any information that you may need about the installation of water turbines.

Samson Turbines use the water economically; the speed is quick and steady; they develop great power.

Write us today for catalog.

James Leffel & Co.

310 Lagonda St. Springfield, Ohio



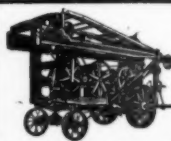
Artesian Well Drillers—Test Boring

SOUTHERN WORK A SPECIALTY.

Pneumatic Water System Installed. Tanks and Towers Erected.
Pumps, Windmills, Hydraulic Rams, Gas and Gasoline Engines.
U. S. Government and Private References.

Columbia Pump & Well Co.

522 Twelfth St. N. W.
WASHINGTON, D. C.



KEYSTONE CABLE DRILLS

For Artesian Water Wells; Oil, Gas and Mineral Test Wells;
Blast Holes in Heavy Excavation. A complete line of Traction
and Portable Machines, all depths to 2500 feet.

In writing for catalog describe work.

Keystone Steam Well Machine Co. Beaver Falls, Pa.



Downie Double Stroke

DEEP WELL PUMPS

Steam or Electric Driven, or geared from shaft, are offered for service in elevating large quantities of water from deep Artesian Wells. Single Stroke Pumps for lighter deep well work. Catalog No. 6.

Keystone Pump & Well Engine Co.
BEAVER FALLS, PA.

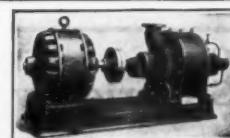
S. MORGAN SMITH CO. York, Pa.

Hydraulic Turbine Builders

Manufacturers of **McCORMICK TURBINES**

See Illustrated ad. in last and next issues.

Branch Offices—176 Federal St., Boston. Chicago Office, 644 American Trust Bldg.



ALBERGER PUMPS

With Centrifugal Pumps, whether of the Turbine or Volute Type, the name of Alberger is a guarantee of maximum service and minimum operating expense.

Write for Bulletin.

Alberger Pump and Condenser Company

140 Cedar Street NEW YORK
Atlanta, Boston, Chicago, St. Louis, Pittsburgh, San Francisco, New Orleans.

WELL DRILLING PAYS BIG MONEY

Own a machine of your own on easy terms.
Many styles and sizes for all purposes.

Write for Circular.

WILLIAMS BROS.

426 W. State St.
ITHACA, N. Y.

W. D. MURRAY & CO., Inc.

General Contractors

208 Citizens Bank Building

NORFOLK, VA.



VULCAN IRON WORKS PILE DRIVERS

327 NO. IRVING AVE. CHICAGO

GERLACH

Circular, Band and Cylinder Saws, New Roller Saw Swages and Sharpeners

Are unexcelled in Europe or America. We use the best steel, the finest equipment, and have sixty years behind us.

THE PETER GERLACH CO., Cleveland, Sixth City

KILDUST The Best Sweeping Compound Made

Packed in 100-pound Half Barrels and 200-pound Barrels. *Jobbers and Agents wanted in every town east of the Mississippi River.*

THE KILDUST COMPANY Rome, Ga.

BUSINESS Opportunities

The Manufacturers Record will place before you each week opportunities for developing your business that will be worth many times the subscription price.

Manufacturers Record

BALTIMORE, MD.

\$4 per year 6 months, \$2

THE YOUNGSTOWN SHEET AND TUBE COMPANY

YOUNGSTOWN, OHIO



YOUNGSTOWN

"YOUNGSTOWN" QUALITY PIPE

The Youngstown Sheet & Tube Co. has recently issued a small book which deals with the manufacture of "YOUNGSTOWN" STEEL PIPE and "YOUNGSTOWN STAR BRAND" GENUINE IRON PIPE.

"QUALITY PIPE" is its title, and it shows by views how this Company is responsible for each and every detail of the manufacture of "YOUNGSTOWN" pipe from the mining of the ore.

If you are interested to know how "YOUNGSTOWN" pipe is made, write for this book of pictures.



DISTRICT SALES OFFICES

NEW YORK CITY
BOSTON, MASS.
PITTSBURG, PA.
DALLAS, TEX.
ST. LOUIS, MO.

PHILADELPHIA, PA.
CHICAGO, ILL.
DENVER, COLO.
SAN FRANCISCO, CAL.
SEATTLE, WASH.

ATLANTA, GA.



OVERLOOKING THE PAY-DIRT

OVER in South Africa they tell the story of a native of Griqualand, whose dream was that of wealth. His ambition was to be, someday, the owner of a diamond mine—the Croesus of his country.

He sold his home and wandered over the land searching for a rich deposit of these gems. After years of search and disappointment he returned to spend his declining years among the friends of his home village.

But when he reached the site of his former home—the home was gone.

In its stead was a group of buildings enclosed within a strong stockade—one of the largest and richest diamond mines in the world.

* * * * *

Most of us are like this man. We have a tendency to search far and wide, for the things which are at hand.

Pay-dirt is often under our feet.

* * * * *

Take it in our buying:—

We are anxious to get in touch with the article which will lighten our work, give comfort or reduce our expense.

Pay-dirt is under our feet.

The many advertising pages of the MANUFACTURERS RECORD are mines of opportunity to the buyer.

It would be well if we would regularly read the advertisements in this paper. The habit is an excellent one to get into. It keeps us in touch with new products. It introduces us to opportunity. It teaches us buying knowledge.

Our modern markets are so large and complicated and prices change so suddenly that whether we buy supplies for our personal use or for the largest industrial corporation, a thorough knowledge of this market is essential to the prevention of waste and the neglect of opportunity. The shortest route to this knowledge is through the reading of advertisements.

And let us bear in mind that the present high efficiency of American advertising is due, mostly to the ability of its writers to dress business topics with the charm of interest. Gladstone, the English statesman, when asked what he liked best about America, replied: "Its periodicals. I find so much of interest in their advertising pages."

The wide range of advertising in the MANUFACTURERS RECORD makes interesting and instructive reading.

* * * * *

We must not hypnotize ourselves into the state where we believe we have not the time for the reading of advertisements. We should TAKE TIME.

* * * * *

Pay-dirt is often under our feet.

But it is of no value to us unless we look for it.

Economy and Efficiency Obtained

BY

Making Your Own Packing

FROM

ULCO LEAD WOOL

For Steam, Hot Water, Gas or Ammonia

A TRIAL WILL CONVINCE

\$1.00 TRIAL PACKAGE by Parcel Post

UNITED LEAD CO.

111 Broadway New York, City

**COTTON SEED OIL MILLS**

are not installing the ANDERSON OIL EXPELLER without good reason. It makes better oil and better cake at less cost than other machinery. Works whole seed or meats only. Let us explain.

Oil Mill
Machinery

BURRUSS ENGINEERING CO.**ATLANTA, GA.****BUSINESS Opportunities**

The Manufacturers Record will place before you each week opportunities for developing your business that will be worth many times the subscription price.
MANUFACTURERS RECORD, Baltimore, Md.
\$4 per year 6 months, \$2

Move To Attack

The Eiffel Tower is now the central military wireless station of France. From it radiate the messages, the commands, that direct the whole army of France battling on its 320 mile front. A breakdown in that station of any of the apparatus would mean little short of catastrophe for the allied armies.

Sturtevant Fans

are relied upon by the French Government to keep the set in operating conditions. They were bought at the outbreak of the war to cool and ventilate the powerful spark gap of this apparatus.

Sturtevant Fans are very largely used in the lumber industry for conveying sawdust and shavings and for mechanical draft.

All Sturtevant apparatus is high-grade and is accepted as superior apparatus.

Catalogues on engines, turbines, mechanical draft, fans, fuel economizers, motors, drying apparatus, dry kilns, or lumber apparatus sent on request. Mention this paper.

B. F. Sturtevant Co.
Hyde Park, BOSTON, MASS.
And all Principal Cities of the World

EIFFEL TOWER IN PARIS
AND ONE OF THE STURTEVANT FANS USED THERE

Property Protection Pays *with* Cyclone-Waukegan Factory Fence

100% Security

The fence around your property is no stronger than its weakest part. A loose board in a wooden fence lays your factory and grounds open to intrusion.

There's uniform and lasting strength, thorough and economical protection for your property in

Cyclone-Waukegan Property-Protection Fence

It is non-climbable; stands 6 to 8 feet high with barb-wire top. It is fire-proof, wind-proof and weather-proof. The fabric is of the heaviest wire used in any fence, closely and firmly woven.

Heavy Tubular Steel Posts offer the greatest resistance to shock or strain from any direction. *There is no weak side.*

Our fences are in use at scores of factories. We are the largest fence erectors in America and have spent years in perfecting designs and methods of manufacture. We know the needs of the buyer and are able to supply them to his entire satisfaction at a money-saving price. *Every shipment guaranteed.*

We build gates to fit any openings for driveways, alleys, switch-tracks, etc. Property Protection Fence built to fit your grounds.

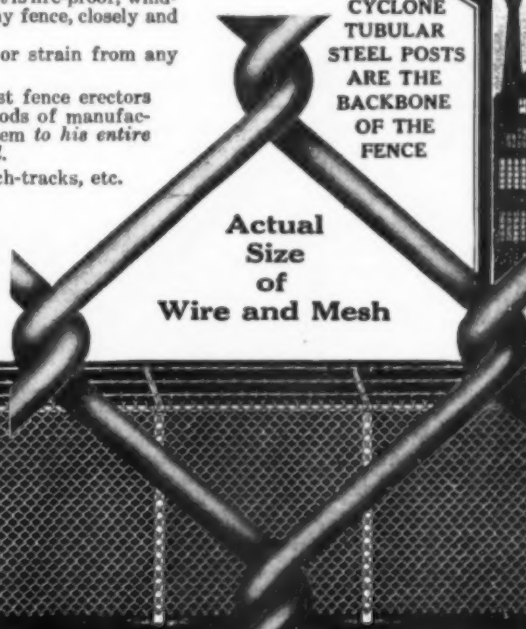
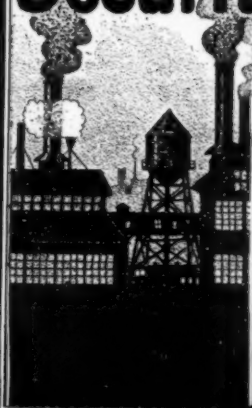
Our engineer will advise with you free of charge regarding your fence problems. We furnish services of construction superintendent at nominal cost to superintend erection.

Illustrated folder showing Property Protection Fence of various designs and giving full information sent free on request.

CYCLONE FENCE CO., Box 132, Waukegan, Ill.

CYCLONE
TUBULAR
STEEL POSTS
ARE THE
BACKBONE
OF THE
FENCE

Actual
Size
of
Wire and Mesh





YELLOW STRAND WIRE ROPE

AERIAL TRAMWAYS

Manufactured by

BRODERICK & BASCOM ROPE CO., 809 N. Main St., ST. LOUIS, MO.

WORKS (St. Louis, Mo.
Seattle, Wash.)

BRANCHES (76 Warren Street, New York
Seattle, Wash.; San Francisco)

OUR RINGS



Set the Standard for Quality

MIRROR SPINNING RINGS
TRADE MARK REG. U.S. PAT. OFF.
DRAPER COMPANY
HOPEDALE, MASS.

THERE ARE
NONE OTHERS
"JUST AS GOOD"

When Building Bridges Bear in Mind the Qualities of CONCRETE

PERMANENT—No other equal.

FLOOD RESISTING—No other can claim this.

NO MAINTENANCE—No painting, re-flooring, replacing.

THE COST is governed by the design adopted, the equipment and organization of builder, and local conditions. Ordinarily conditions are favorable to **CONCRETE**, and it will pay you to investigate. Remember, **CONCRETE** has its **QUALITIES**, and the saving in maintenance alone is a deciding factor. **ECONOMY** can be attained only by experienced and specially trained designers, and **BEST RESULTS** by specially equipped contractors. Get our proposal.

C. W. REQUARTH COMPANY, Charlotte, N. C.
ENGINEERS and CONTRACTORS

Operations Confined to the Permanent Class of Structures.

CAPACITY—No decrease of capacity with age.

NOISELESS—No vibration, loose rivets, bad floors.

BEAUTY—No other can attain more.



SEWER PIPE

SANITARY—ECONOMICAL—PERMANENT

27", 30", 36" and 42", or any other size

**BLACKMER VITRIFIED
SEWER PIPE**

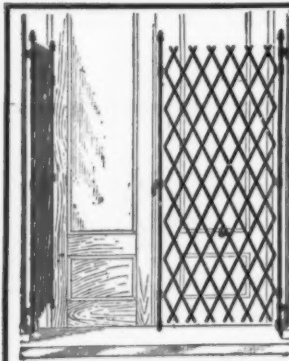
Is treated of in our publication—"Deliverance From Plague." It is a handsome booklet. Every sanitary engineer should have a copy. Mailed for the asking.

BLACKMER & POST PIPE CO.
Wainwright Bldg. ST. LOUIS, MO.

STRUCTURAL IRON WORKS

Foundry and Machine Shops

GRAINGER & CO., Inc. ESTABLISHED 1886 Tenth St., Louisville, Ky.



Collapsing Gates

Elevator Cabs and Enclosures
Ornamental Iron Work

GET OUR CATALOGUE

Dow Wire & Iron Works
LOUISVILLE, KY.

ROLLING Steel and Wood DOORS

APPROVED FIRE DOORS

THE KINNEAR MANFG. CO. COLUMBUS, O.

THERE IS MONEY IN EXCELSIOR

When Your Machine Turns Out the Maximum Quantity at the Minimum Cost

The Kline 8 Block Will Do This for You

Write for Catalogue

Lewis T. Kline

ALPENA, MICH.



The Mecklenburg Iron Works

Will be glad to answer all correspondence from parties who need or expect to need

**Machinery for Handling
GOLD, IRON or COTTON**

as they have been manufacturing such machinery for thirty years, and can give entire satisfaction. Their address is

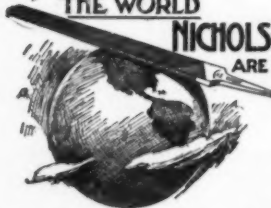
M. I. W.

Charlotte, N. C.

M. I. W.

ALL OVER THE WORLD

NICHOLSON FILES
ARE KNOWN AS THE BEST

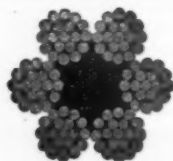


Fine materials, expert workmen, and the best equipped File Factory in the world, enable us to guarantee the sharp teeth, fine temper, uniform quality and long wearing qualities of every **NICHOLSON File**.

Specify "**NICHOLSON**" when ordering Files.
A personal test will do the rest.

FOR YOU—A forty-eight years' education on Files in an hour.
Told in our booklet "**FILE PHILOSOPHY**."
Sent **FREE** on request, with half-tone catalog de luxe.

NICHOLSON FILE CO., Providence, R. I.

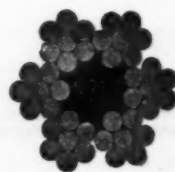


For service on cranes, derricks,
steam shovels and dredges, and
for mine and other haulages, order

Roebbling Wire Rope

Made first in 1840, its manufacture has been conducted ever since without interruption.

John A. Roebbling's Sons Co.
ATLANTA, GA. TRENTON, N. J.



MANUFACTURERS RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

Trade-Name Registered in the U. S. Patent Office

VOL. LXVII. No. 8. }
WEEKLY.

BALTIMORE, FEBRUARY 25, 1915.

\$4.00 A YEAR.
SINGLE COPIES, 15 CENTS.

PUBLISHED EVERY THURSDAY BY THE
MANUFACTURERS RECORD PUBLISHING CO.

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FRANK GOULD, Vice-Pres. L. S. FIELD, Sec'y.

RICHARD H. EDMONDS, Editor and General Manager

EDWARD INGLE, Managing Editor

BRANCH OFFICES:

NEW YORK, 52 Broadway CHICAGO, 1409 Fisher Bldg.
BOSTON, 733 Old South Bldg. ST. LOUIS, 627-630 Century Bldg.

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IMMIGRATION WHEN THE WAR ENDS.

VICE-PRESIDENT A. L. JOHNSON of the Corrugated Bar Co. of Buffalo, N. Y., taking a broad, public-spirited view of the textile industry in the South, believes that the close of the European war will be a wonderful opportunity for Southern manufacturers. To the MANUFACTURERS RECORD he writes:

It is evident that the only real disadvantage that the South is laboring under today in the manufacture of cotton fabrics, as compared with New England, is in the difference in the operatives or quality of labor available. Now is the time to arrange for the importation of experts from Belgium in this line, settling them and their families here so that when the war is over a year or two hence they will have become sufficiently established to be content to remain.

This wise advice voices an opinion quite generally held, it is believed, by many thoughtful men interested in the industrial development of the South. The thought is predicated upon an impression that the close of the European war will mean a great wave of migration to this country of peoples of the nations of the Continent of Europe now suffering loss of life and property. No one could possibly wish more strongly than the MANUFACTURERS RECORD that, should large numbers of the thrifty and the fit natives of the warring countries find it necessary to seek other lands, means might be adopted to induce them to cast their fortunes with the industrial life of the South, where, in gainful occupations, they might better their own conditions and contribute to the welfare of that section. In the textile industry, especially, would be an opening for thousands of skilled operatives from abroad whose work in several countries there makes a market annually for 7,000,000 or 8,000,000 bales of Southern-grown cotton and whose coming to the South would help to meet a deficiency in the supply of that sort of labor and tend to diminish the annual loss to the South in the exportation of raw cotton instead of finished cotton goods. So, too, benefits would come to other productive lines. Men of business mind in practical affairs should, therefore, lose no time in preparation for the possibility of such a migration and in planning to make the most of it to the mutual advantage of the newcomers and themselves.

Such planning, however, must give due weight to the fact that this country has no information of present conditions in the warring European countries upon which to base any definite forecast of the state of mind, the inclinations and the conditions of the peoples of those countries at the conclusion of the war. The mass of purported information of current happenings in the European battlefield is of little value to the searcher for reliable facts, and even the diplomatic communications are manifestly colored or discolored with the deliberate purpose of influencing uninformed public opinion in this country, in the hope of breaking down the determination on our part

to keep the United States strictly neutral. Therefore, whatever planning in connection with expected immigration is made should have in view such questions as these:

In spite of the necessity for rebuilding, almost from the ground up, the industrial organization of some of the countries now at war, will those countries have the financial means required for the task?

The problem of home food supplies will in some cases be the most pressing one. Will not the consequent accentuated demand for farm labor give opportunity for employment of thousands temporarily out of work because of the crippling of manufacturing industries?

Whether or not financial means for rebuilding are available, and whether or not lack of opportunity in one field of activity be overcome by the call for labor in others, will the masses of the producing classes, always compelled to bear the enormous burdens of preparation for war and always the principal sufferers when force is resorted to for the settlement of international disputes for the furtherance of the ambitions of rulers or of special interests controlling them, be content to risk again another lapse into barbarism like the present, or will they endeavor to escape forever, by migrating to this country, the chance of the collapse of civilization?

From at least four of the leading countries party to the European conflict have come to this country in the past millions of men and women whose hopes and energies have helped to make the greatness of the United States. From those four countries we have, unfortunately, been receiving in recent years fewer and fewer desirable immigrants, and at the same time the volume of undesirable immigration from others of the leading countries in the conflict has been steadily swelling. If the results of the war shall reverse the immigration status of the past fifteen or twenty years and bring about that which prevailed thirty years ago, a status in which producers far outnumbered parasites among the newcomers, this country should be prepared to welcome the desirables, however deeply it may regret the misfortunes responsible for their coming.

FOR MORE GRAIN MILLING.

REFERRING with hearty approval to the recent editorial in the MANUFACTURERS RECORD urging the milling in South Carolina of South Carolina grain, A. V. Snell, managing secretary of the Charleston Chamber of Commerce, writes as follows:

It is a position that we have all been taking here, that the grain grown in South Carolina should be put in proper shape to be consumed by South Carolina.

All through this State, especially in the Pee Dee section and north thereof, there are many old mill points and water mills that formerly ground out the grain, corn and wheat and which could be used today.

There is nothing better than home-ground grits, as the imported has not the flavor of the home-ground. We are, therefore, urging upon our people to consume home products and use the surplus in hogs and cattle, which also could be home grown.

Cotton will always remain our chief product, and our aim, therefore, will be to encourage our people to consume home products, leaving the cotton for the money crop.

Splendid operative efforts have been put forth in South Carolina by commercial bodies, farm demonstration and the agricultural department in carrying on the educational campaign, which is certain to produce the most beneficial results.

It is an earnest of the determination in South Carolina to depend upon home products that the acreage planted in wheat last fall is three times as great as that of the preceding year. There is plenty of room in the State for an expansion of the practice of living at home, and the revival of grain-milling operations is likely to accelerate, directly or indirectly, the growth of other manufacturing industries.

RAW COTTON'S SMALL PART IN INTER-STATE TRADE.

G. E. CASSEL, East Radford, Va., publicity agent of the Norfolk & Western Railway Co., has written to the MANUFACTURERS RECORD on the subject of cotton and the South an article which, for the novelty of its suggestion, is remarkable and which readily leads to an opposite suggestion which the South will be wise to follow. He writes:

The world must have cotton—a big lot of it. Just now everybody seems to be giving free advice to the cotton growers, advising a less acreage than ever before, at least much less than for the year 1914.

Is this good advice? Of course, owing to the disturbed state of almost every enterprise, due to the war, cotton prices went down to nearly the zero mark. But things are looking up. Charlotte (N. C.) mills have recent orders for some 300,000 yards of fine damask, and doubtless many other big orders might be mentioned. Germany wants now, and will soon, it is hoped, about all the cotton she can get, and the same for the other nations, as well as our own country.

Now, it occurs to me that the wise thing to do is not to plant less than was planted in 1914, but much more.

There is an abundance of land available; a farmer can cultivate ten acres at much less than twice the cost that he can cultivate five acres. It takes the tools and teams for the five; it would take no more of either for the ten.

As the European countries will want a big lot of cotton just as soon as the war is over, no one can doubt. Even if the price should be low, twice the amount will double the chances for a reasonable income.

To advise the Southern farmer to diversify is all right, but the farmer has a way of doing as he thinks best suits him in all such matters.

Interstate trade is what makes prosperity. If the South is better adapted to growing cotton than anything else, why not grow that and buy with the proceeds the things that some other section can profitably produce?

To follow the diversifying argument to its legitimate and ultimate conclusion each section of the country would produce all and everything needed, and there would be no interstate trade.

Norfolk produces truck at a big profit; why fool with fruit?

Of course, the ideal plan is for every farmer to live within the limits of his line fences—buy nothing except, perhaps, his sugar and coffee, and such like. But is that the better plan, after all? In the good old days of long ago, before transportation came along and put the grapefruit from Florida on our breakfast tables, etc., our farmers raised sheep, carded the wool, spun the yarn and wove the cloth and made the clothes all on the farm. Were those days ideal?

Plant twice the acreage to cotton this year; the world will need it; also plant some corn, truck, raise some stock, some fowls, and such like, for immediate home consumption.

Interstate trade is an element in the growth of prosperity, but without prosperity interstate trade declines to a minimum. In the "good old days of long ago" to which Mr. Cassel refers there may not have been many of the conveniences of today, and, in the absence of facilities for interstate trade, many articles now become almost necessities may have been luxuries. But in the rapid changes of the past twenty or thirty years the American people have lost some things which have not compensation in conveniences and facilities of the twentieth century. The farmer who raised practically everything required for food and feed and who manufactured at home into clothing material raised right at hand may not have been as prosperous as a farmer of today who confines his efforts principally to raising a money crop which, in being hauled to a distant point, creates traffic for interstate trade, but he was far more independent and consequently, better off, after all.

But cannot a better traffic for interstate trade be created in the encouragement of a diversification of crops in the South of a wider range than the mere raising of home supplies by growers of cotton or other staple crops? Neither cotton nor any other large farm crop constitutes anything like the bulk of traffic in interstate trade. Incomplete, though repre-

representative, figures of freight movement in this country in a recent year showed that of 343,529,970 tons of freight carried in carload lots, only 3,400,316 tons represented cotton and only 54,365,072 tons the aggregate of cotton, grain, livestock, hay and dressed meats, while 289,164,698 tons, or 84 per cent. of the total, represented the aggregate of coal and lumber. The total revenue from these classes of freight was \$330,658,310, of which \$12,573,674, or 3.7 per cent., was from cotton; \$103,210,103, or 30.1 per cent., from the five agricultural products, including cotton, and \$227,448,207, or 68.2 per cent., from coal and lumber. These figures deal only with 54 per cent. of the railroad mileage of the country, but they suffice to indicate the relative lack of importance of raw cotton in interstate trade, which becomes even less when the whole freight traffic of the country is considered. If, carrying the diversification argument to its ultimate conclusion in the case of cotton, for instance, the South should manufacture within its borders all the cotton that it raises instead of shipping to other parts of the world about two-thirds of its annual crop, the South could clothe itself as far as cotton goods is concerned, but interstate and international trade in finished cotton products, much more valuable than interstate trade in raw cotton, would come to the traffic agencies operating either in the South exclusively or in several sections of the country. The manifest advantages of certain regions in the South for the textile industry would still mean hauling of cotton from distant points to the mills and hauling from the mills the finished goods. Likewise, special advantages enjoyed by regions in other parts of the country for other undertakings, either agricultural or manufacturing, would always mean interstate trade in the exchange of finished or final products among the sections, while some regions would always have to depend upon others for their supplies of foodstuffs and manufactured articles.

Again, dealing only with diversification in agriculture, which is the burden of Mr. Cassel's thought, it should be borne in mind that the great majority of the people of the United States are obliged to look to a rather limited number of their fellows for the production of their food. Of the total population in 1910 of 91,972,266 in continental United States, 71,580,270 were ten years of age or older. Of that number 38,167,336 were engaged in gainful pursuits, and of that number 12,384,237, or less than 33 per cent., were engaged in agriculture. Or, in other words, less than one-seventh of the population is obliged to raise virtually all the food and a greater part of the material for the clothing of the people of the United States. Of the total engaged in gainful pursuits, 7,605,730, or less than 20 per cent., were engaged in trade and transportation. For these and for 9,833,277 in manufacturing and mechanical pursuits, 1,825,127 in professional service, 905,869 in mining and quarrying, 183,688 in forestry, 68,275 in the fisheries, and 5,361,033 in domestic or personal service and their families, the 12,384,237 persons engaged in agriculture must provide, in addition to themselves. On the other hand, the 26,000,000 were engaged, directly or indirectly, in providing for those in agriculture. This country is equipped by nature to support, in co-operation with human activities, 500,000,000 population in comfort instead of its present 100,000,000. With 500,000,000 population the average would be less than 175 persons to the square mile, or about one-quarter of the density of population in Rhode Island. It will be quite a while before the United States has 500,000,000 population, and even when the time does come the real prosperity of that population will depend upon a diversity of activities and products and a fluidity and fulness of interstate trade in comparison with which today's attempts at diversification in production will appear insignificant and its scramblings in interstate trade almost pitiful.

In spite of its wonderful advance toward diversification in agriculture, with the result that already the cotton crop, with its seed, has become in value less than 30 per cent. of its total agricultural output, the South is not as prosperous as it would be and is not contributing as much as it could to interstate trade if its wonderful opportunities for diversification were better realized. One of its greatest drawbacks is the undue importance ascribed to its cotton crop. At this particular juncture planting this year

in cotton twice the acreage of last year, or even an equal acreage, would be about as reckless a piece of business for the South as could be undertaken.

"FULL-CREW" LAWS AND LOBBYING.

ONE of the favorite devices of political demagogues for rallying to their support special classes in the community by assuming to benefit those classes and, at the same time, for winning additional popularity by taking a crack at a favorite target, is the "full-crew" law imposed upon the railroads. The pretext for such a law is consideration for the safety of the traveling public and of railway employes, every demagogic agitation necessarily taking a high social ground. But the real impulse is the mistaken belief that it is economic to create opportunities for employment where the necessity for employment does not exist. Two years ago Missouri passed such a law subject to a referendum. Last fall the law was repudiated by the people of the State by a vote of 324,085 to 159,593. That action was regarded as a turning point in this particular species of ad hominem legislation, and it was not surprising that the railroads operating in Pennsylvania and New Jersey have now undertaken to bring about a repeal of "full-crew" laws in those States. Of course, representatives of railroad trainmen have raised the cry of a "railroad lobby" in effort to combat the repeal of the law. President Samuel Rea of the Pennsylvania Railroad, President Daniel Willard of the Baltimore & Ohio Railroad and President Theodore Voorhees of the Philadelphia & Reading Railway, a committee for thirteen railroads operating in Pennsylvania and New Jersey, have promptly met this charge in a statement containing the following:

We assert the inalienable right of any and every citizen to talk with and write to his elected Representatives and to impress upon them in every honest way his views, whatever they are.

That is a timely utterance. It is the easiest thing in the world to attempt to besmirch action intended to influence legislation by dubbing it a "lobby." Because improper methods have been resorted to in lobbying, the word has been given a sinister meaning. But it is a sound American word expressive of a spirit proper to a people who believe in self-government. Lobbying is one of the means for informing members of legislative bodies of the wishes of their constituents or of interests that may be affected by legislation. The information may be legitimately conveyed by the spoken word, by personal letters and, in the event of incompetency or unwillingness on the part of legislators and others to give heed to facts and arguments, broadcast printed publicity. The individual citizen or any organization of citizens has a perfect right to resort to such means. Indeed, it is a public duty to do so whenever something more than private interests are concerned in the legislation or legislators seem inclined to statutize an error. The representatives of the railways in Pennsylvania and New Jersey are doing that very thing, and the statements they are making bear directly upon the public welfare. They are contending, and are offering facts in justification, that "full-crew" laws have worked to the detriment of the public interest without accomplishing reduction in the hazard of operating trains, and they state that twenty railroads in the two States paid last year in employment of superfluous brakemen \$2,000,000, which would have bought 200 steel coaches, or 80 locomotives, or 67,000 tons of rails, or would have block-sigaled 800 miles of track, or have eliminated 65 grade crossings. Those \$2,000,000 represented an annual 5 per cent. interest on \$40,000,000.

The truth of that statement, as well as of the statement that the hazard of operation has been increased, ought to be readily demonstrable. Both significant statements emphasize the plight into which the railroads have been brought by uninformed and short-sighted legislation inspired sometimes in the earlier days by sincere desire to remedy real evils, but latterly the outcome of unjustified vindictiveness or unadulterated demagoguery. Arbitrarily, burdens have been placed upon the

railroads and at the same time limitations upon their ability to meet the burdens. An expenditure in one year of \$2,000,000 upon superfluous wages under pretext of serving the public reduces by just that sum the means by which the railroads might better their equipment for the safety and the comfort of the public in traveling. That one statement of the railroad representatives is a splendid starting point for a public exposition of the incubus placed upon the public by much of the legislation resulting from agitation against the railroads. It is hoped that the railroad representatives will continue their publicity work in this direction, and in doing so will vindicate the American right to lobby, even though the advertising pages of newspapers have to be employed in the publicity work. If that medium of such publicity had been recognized earlier and had been judiciously and frankly employed, much of the present work of the kind would have been unnecessary.

ANOTHER INCOME TAX YEAR.

LOOK out for emanations, of bureaucratic origin at Washington, of attempts to discount the possibility of failure of revenue from the Federal income tax to square with hopes.

March 1 is the limit of the period in which returns must be made. The year 1914 was marked in the administration of the income tax law by no radical change of mind from that of the year 1913. Persistent pounding by informed intelligence did bring about some slight modification toward reason, legality and justice of official interpretation of provisions of the law, which, however, as far as general results are concerned, was nullified by official creation of other embarrassments resulting from an apparent disregard of the general rule of equity to the effect that interpretation of obscurities in taxation laws should favor, wherever possible, the taxpayer. But no inclination has developed to purge the law of its glaringly manifest evils, and the hopefulness as to the revenue from the returns for 1914 indicates that upon bureaucratic mentality has apparently not quite dawned the idea, obvious to others, that the original basis of calculation of returns from the tax was an exaggerated one, or, in addition, the full realization of the effects of the depression of the past year in diminution of the income both of corporations and of individuals. It would not be surprising, however, if there should be no marked increase in the aggregate revenue from corporations and individuals in 1914 over 1913, and, indeed, if there should be an actual decrease. The tax for 1913 affected the income of individuals for only ten months, but in the dovetailing of the excise tax upon corporations for two months coming over from the law of 1909 and the corporation income tax for ten months practically the full income tax for the year was obtained from the corporations. As a matter of fact, returns from the corporation tax for 1913, not including collections in July and August, 1914, of \$4,461,853 on account of assessments upon corporations for previous years, were \$2,127,740 greater than the estimate of \$41,000,000, while returns from individuals were \$25,746,465 less than the estimate. The estimate of returns for 1914 is \$40,000,000 from corporations and \$40,000,000 from individuals, a total of \$80,000,000, or \$8,608,725 more than the actual returns for 1913. That estimate indicates a belief that the corporations of the country, with an aggregate capitalization of \$64,071,319,185, had in 1914 a net income only \$312,774,000 less than in 1913, and that there was an actual increase in the aggregate income of individuals. For, on the basis of the returns for ten months in 1913, the taxable individual incomes in that year aggregated \$3,390,424,200. The estimate for 1914 looks for an aggregate \$609,575,800 greater, in spite of the fact that of the incomes liable both to the normal tax and to the surtax some must have been diminished by the decrease or entire loss of income by way of dividends upon the earnings of corporations. To be sure, vague charges that evasions of the tax were made by individuals in the preceding year may still be expected to be repeated in accounting for a failure of the expectations as to 1914 returns, and the estimate allowing an increase of more than \$600,000,000 in the taxable incomes of

individuals in a year when some recognition of industrial and financial depression appears in an estimate that the net incomes of corporations was more than \$300,000,000 less suggests that the official impression as to deliberate evasions in the past is a genuine one, however hazy. But, if all the facts were available, it is believed that the discovery could be made that for every dollar of tax deliberately evaded in the returns for 1913 there was at least one dollar tax paid that could not lawfully have been collected. For the form for individual return of the tax was constructed in such a way that unintentional error by the taxpayer must have been in favor of the Government. Facts essential to fairness toward the taxpayer were not embodied in the form, and, on the other hand, it contained implications that were bound to mislead the careless or the uninformed. There were features in the form, some of them retained in the decidedly improved form for 1914, that seem hardly justified by the text of the law, and some of the rulings by the Internal Revenue Office have been distinctly to the disadvantage of the taxpayers. As of January 5, 1914, to give a typical illustration of the unnecessary embarrassments, was published by the Government regulations of the Internal Revenue Office relative to the income tax. Before that publication was well in circulation the Internal Revenue Office was forced to make a ruling overturning an implication in the regulations, as to returns of dividends upon stock for purposes of normal tax, directly contrary to a specific provision of the law. In the same publication was added to the provision of the law for the deduction from gross income of "all interest paid within the year on personal indebtedness of the taxpayer" the words, absolutely unjustified by the law, "incurred in the conduct of business." That unwarranted addition, typical of the lawmaking propensities of bureaucracy, meant injustice to taxpayers who felt obliged to be guided by the blind leadership of the Internal Revenue Office in such provisions. Only last week the counsel of the Investment Bankers' Association of America brought that unwarranted provision to the attention of the Office, and received in reply a statement from the Office that "all interest paid within the year by taxable persons on indebtedness may be deducted in computing net income." How long will it be before the general body of individuals subject to the income tax will acquire the information conveyed in response to specific inquiries of this kind?

Even in the case of the horrible travesty upon law-making finding its vent in the Federal income tax law such inquiries would have been unnecessary had average intelligence, free from the bureaucratic tendency to stretch a law or to amplify its provisions, been applied to the administration of the law. But in an emergency of the institution of a radical departure in Federal taxation calling for the exercise of broad-mindedness beyond the measure of red-tapism the task was committed to incompetency, no matter how good the intentions of everybody were, that was manifested within less than four days after the passage of the income tax law. How long will the 400,000 citizens subject to the income tax of the United States remain content to be embarrassed by any of their servants in the absence of intelligent revision by Congress of imperfections or of a test before the United States Supreme Court of the unconstitutional, illegal and unintelligible Federal income tax law?

Optimistic Notes Reported.

Night forces resume work at the plant of the J. J. Newman Lumber Co. at Sumrall, Miss.

Rush of orders compel putting on a large night shift in an overalls factory at Houston, Tex.

Newly installed tie plate mill of the Gulf States Steel Co. at Gadsden, Ala., put in operation.

Steel department of Maryland Steel Co. at Sparrows Point, Md., to be partly opened on March 1.

Work in full headway in granite quarries at Mt. Airy, N. C.

Third furnace in the tube department of Wheeling (W. Va.) steel and iron plant started.

More than 5000 men at work upon the powder plant at City Point, Va.

The Dyestuff Situation and Its Lesson*

By ARTHUR D. LITTLE, President of Arthur D. Little, Inc., Boston.

All the world knows that during the last 50 years a sweeping revolution has been effected in the art of dyeing. The vegetable dyes, like logwood, fustic, sumac, madder, indigo, and many others, the few animal dyes, like cochineal, and the relatively crude mineral pigments have all been displaced completely or in greater part by the products of synthetic chemistry after a record of tinctorial service extending back to the days of Genesis. The coal-tar color industry, which began in 1856 with the discovery of mauve by an English boy of 18, known later as Sir William Henry Perkin, soon took root in Germany, where it has attained its present great development and delicately adjusted organization mainly through the genius of a few and the plodding industry of many German chemists, the far-sighted courage of German financiers and the technical and business sagacity of German managers. It is in a very real sense a created industry brought into being by the reaction of intellect upon the black chaos of coal tar. It is peculiarly a German industry, and its products for the most part may justly and proudly bear the legend "Made in Germany."

Contrary to popular belief, the products of this industry have displaced the old vegetable dyes because they are better, brighter, faster, easier of application, cheaper and incomparably wider in color range.

With our textile and paper mills, paint and varnish manufacturers, makers of printing inks and many minor industries thus definitely committed to the use of coal-tar dyes, it is not surprising that the sudden prospect of a dyestuff famine should have occasioned grave concern. At the outbreak of the war the textile mills were generally credited with having not more than five months' supply on hand. The other industries concerned were probably less fortunate. For a time the German embargo on dyestuffs prevented shipments, and stocks were rapidly depleted. Through the persistent, earnest and capable efforts of American representatives of the German manufacturers, shipments have been resumed under some restrictions, but with reasonable regularity. The German plants are running at about 60 per cent. capacity, and distribution of their product is regulated by the Government through the Society of Dyestuff Manufacturers. The basic allotment is said to be 75 per cent. of the 1913 consumption distributed over monthly shipments, which must go forward in American boats. There is little doubt that to prevent reshipment to the allies it is the German policy to keep our own mills in a chronic state of dyestuff hunger. As a result, many mills are now running from hand to mouth, others claim to be provided for three months, and a few for a somewhat longer period on certain lines of colors.

As a result of the close interdependence of the coal-tar dyes and coal-tar explosives industries, there has been a practically complete cessation of receipts of such dyes and developers as require for their manufacture nitric acid or raw materials derived from coal tar and available for the production of explosives—such materials, for example, as toluol and carbolic acid.

The acid blues and acid blacks largely used in dyeing woollens are already scarce, as are also most yellows and oranges and a wide variety of blues and greens. Paranitraniline, used in connection with pigment red in poster work, is practically out of the market, and it may be said that pigment workers generally find themselves in an especially precarious condition as to dyes.

Nitro developers are cut off entirely, and beta-naphthol is obtainable only at prices which are almost prohibitive. Within a fortnight a large gingham mill has purchased 1200 pounds, at \$1.50 a pound, as against a normal price of 9 to 9½ cents.

In this connection it is only just to point out that the German manufacturers and the agents and importers here have handled the difficult and abnormal situation created by the war in a spirit of great fairness. They have prevented stocking up by greedy consumers; they have apportioned supplies impartially on the basis of past consumption, and they have shown remarkable restraint in the matter of prices. The present average advance on obtainable colors is about 25 per cent.,

*From an address before the Chamber of Commerce of the United States at Washington.

based on a 10 per cent. increase in factory price and higher insurance and freights. In some cases the advance is 35 to 40 per cent. There is every prospect that with the diminution in the supply of raw materials prices will go much higher in the near future. There is a compensating, though somewhat remote, possibility that the manufacture of nitro dyes and developers may be resumed, as the German Government has subsidized the construction of two large plants for the manufacture of nitric acid from the air, and these are expected to come into operation during the present month.

In the face of the present emergency, the textile mills are resorting wherever possible to the old vegetable dyes and are already making free use of logwood and fustic. As a result these woods and their extracts have experienced a marked advance, amounting, in case of fustic, to 100 per cent. Paper mills are endeavoring to confine their product to natural and white papers, or those which are tinted rather than deeply colored, and all consumers are husbanding their color resources with the utmost care and adopting makeshifts wherever possible. It is gratifying to note that in these efforts they have the cordial and effective co-operation of the laboratories and technical staffs of the great importing agents.

In 1913 the average dividend paid by German dyestuff factories was 21.74 per cent. The actual earnings were much greater and have sufficed in the past to provide sinking funds to cover the entire costs of development and plant. Few industries in the United States can make so good a showing. It seems reasonable, therefore, to inquire why we should endure indefinitely the present hardships, and why we should not have a coal-tar color industry of our own which should supply our wants without let or hindrance from Germany. There is but one answer to these questions, and but one consideration to restrain us. We can have such an industry whenever we are prepared to pay the price, but is it worth that price?

The coal-tar color and explosives industry as developed by Germany is probably the most highly organized of any industry in the world. Starting with less than a dozen crude raw materials, as benzol, toluol, anthracene, naphthalene, carbolic acid, etc., derived from coal tar, it builds up by complex chemical processes, which often involve elaborate and expensive plants and the most rigid scientific control of operating conditions, more than 900 separate ultimate products, and over 300 intermediates, so called, or over 1200 products in all, some of which cannot be turned out commercially in quantities much over 100 pounds. The whole system of production depends for its commercial efficiency upon the close correlation and interdependence of these many products. The industry is self-contained. It makes its own crudes and converts its own wastes into raw materials for new processes to be applied to them by itself. The adjustment of the economic balance is so close that a slight change in the value of some one product may disarrange whole processes and affect disastrously many products. Obviously, therefore, at this stage of its development the industry must be considered as a whole if any effective competitive development in this country is to be attained. The situation is not unlike that now existing in our packing industry, where by rougher methods indeed but on a far greater scale the entire raw material is utilized in a complex series of related products which are individually profitable only because of this relation to the others.

Twenty-two factories are involved in the German dyestuff industry, but by far the larger portion of the business is in the hands of four great companies. The industry as a whole is bound together by trade agreements and co-operative arrangements which add greatly to the efficiency of production.

A few figures regarding one of these companies are instructive. For transportation within the plant it utilizes 42 miles of railroad. Its water-works supply 10,000,000,000 gallons yearly, and its ice factory 12,000 tons of ice. It has 400 steam engines, 500 electric motors, nearly as many telephone stations, and 25 steam fire engines. It has a frontage on the Rhine of one and a half miles, and handles sulphuric acid in tank steamers. Seven years ago it employed 217 chemists, 142 civil engineers, 8000 workmen, and a commercial staff of

918. Perhaps even more important from the present point of view of the American business man is this significant statement published by this company:

"On looking back upon the successes which the Badische Anilin und Soda Fabrik has achieved since its foundation the management feels it to be its pleasant duty to remember gratefully the benevolent and appreciative support which its efforts have always met at the hands of the State authorities."

Within the last few weeks Dr. B. C. Hesse of New York, who combines in a remarkable manner the functions of the chemist and statistician, has brought together many figures which bear upon our present problem and which give some indication of the price which we must pay for an American coal-tar color industry.

The world's production of all coal-tar dyes is substantially \$100,000,000. The annual turn over of the German plants is about \$80,000,000, and the plant value on various estimates not far from \$400,000,000. It will be noted that the relation of plant investment to output is extremely high, being \$5 to 1. There is one works chemist to every \$80,000 of output, and about 50,000 employees in all. The total export value of the German product was about \$55,000,000, which was distributed among 33 countries. China takes four times as much German indigo as the United States consumes. The average wage in the industry was 4.80 marks, inclusive of boys, common labor and skilled labor. The average men's wage was 5.85 marks, or \$1.40, which is brought by bonuses and social service to the equivalent of \$1.84. The gross average export value of the 912 dyes produced is \$61,405 each, or, excepting a very few of the most important, the corresponding figure for the remaining 900 or more is \$40,811. Dr. Hesse has characterized the German coal-tar color industry as "just about a one-nation business," and on this showing I would ask you if Dr. Hesse is not right.

It is, nevertheless, an industry which has been replete with romance and with great achievement. The synthesis of alizarine, for example, gave a death blow to the cultivation of madder, of which 45 years ago the annual production was about 500,000 tons. Synthetic indigo upset the social economy of whole regions in India, and made available for raising food great tracts of land before devoted to the cultivation of natural indigo. These triumphs of organic chemistry unquestionably reacted throughout the entire range of German industry, and did much to convert the nation to the cult of science, upon which its extraordinary efficiency in material affairs is based. These considerations, coupled with the industrial miracle of the genesis of the rainbow from so unpromising a material as coal tar, enable the coal-tar color industry to make a peculiarly powerful appeal to the imagination. We would be justly proud had we developed it ourselves.

We have in a sense had a coal-tar color industry in this country for 30 years, which has failed to take deep root or flourish even under the protection of a 30 per cent. tariff, and during the very period when the German industry under the far greater stimulus of organized and persistent research achieved its greatest technical and commercial triumphs. There are today four plants in the country, and they make perhaps 15 per cent. of the total American consumption, but confine themselves to less than 100 products. They hold out no promise of extensive increase in production without Government assistance to the extent of a 30 per cent. ad valorem duty plus 7½ cents per pound specific and an effective anti-dumping clause. In this connection it might be pointed out that from 1880 to 1883 the ad valorem duty was 35 per cent., with 50 cents specific. The present duty is 30 per cent. on colors and 10 per cent. on intermediates, with synthetic indigo and alizarine colors free. Under it probably not more than 17 of the 912 German dyes are completely fabricated in this country; the remaining 83 of the 100 types claimed as American products are merely developed or "assembled" here from intermediates obtained from Germany. Were our own manufacturers to secure the entire American business it would amount to only about \$10,000,000 annually, a little more than the candy sold by the Woolworth stores.

Since the United States now produces 125,000,000 gallons of coal tar annually, it may here be pointed out that the country already possesses a coal-tar industry as distinguished from a coal-tar color and explosives industry, and that the coal-tar industry as such has been developed here to an extent unthought of in Germany. An average tar yields 70 per cent. of pitch and only 6

per cent. of materials useful to the color industry. In Europe the pitch is commonly used for fuel. In the United States, upon the other hand, over 90 per cent. of the pitch is utilized in roofing, waterproofing and road-making, while the creosote oil and naphthalene find other profitable and well-known applications.

The plain underlying reason why we have been unable during 30 years of tariff protection to develop in this country an independent and self-contained coal-tar color industry, while during the same period the Germans have magnificently succeeded, is to be found in the failure of our manufacturers and capitalists to realize the creative power and earning capacity of industrial research. This power and this capacity have been recognized by Germany, and on them as cornerstones her industries are based. As a result, the German coal plants are now quite capable of meeting the demands of the whole world when peace is once restored. Why, then, should we duplicate them only to plunge into an industrial warfare against the most strongly fortified industrial position in the world? Let us rather console ourselves with a few reflections and then see how otherwise we might spend our money to our better advantage.

Let us consider for a moment some of the things which might be done with the vast expenditure of effort, money and research required to establish in this country this "one-nation" industry.

We should first of all review our own almost boundless natural resources, and especially should we consider our gigantic and shameful wastes. They offer opportunity for the ultimate development of a score of industries, each of a magnitude comparable to the color industry of Germany, and for the almost immediate up-building of hundreds of smaller enterprises relatively no less profitable. We waste, for instance, one hundred and fifty million tons of wood a year, a billion feet of natural gas a day, millions of tons of flax straw at every harvest; untouched peat deposits fringe our entire Atlantic seaboard; beehive coke ovens flame for miles in Pennsylvania, wasting precious ammonia, and excite no comment, while the burning of a thousand-dollar house would draw a mob. The whole South is a reservoir of industrial wealth, untapped in any proper sense. We have heard these things so often that we can go to sleep while hearing them. We need to really sense them, to get before our consciousness a clear conception of what they actually mean in terms of wasted wealth and present opportunity. When we do this—and there is no better time than now—let us apply the lesson of the German coal-tar color industry to these far greater problems, and solve them by the compelling agency of sustained, intensive research.

To take one illustration only, the application to the lumber industry of the South of one-tenth the research energy and skill which were required to bring the coal-tar chemical industries to their present proud pre-eminence would unquestionably result in the creation of a whole series of great interlocking industries, each more profitable than that of lumbering. The South would be in a position to dominate the paper market of the world, it would transport denatured alcohol by pipe line and tank steamer, make thousands of tons a day of carbohydrate cattle feeds, reorganize and develop along new lines and to far better purpose its languishing naval stores industry, and find new opportunity at every hand. To do these things in one industry, and many things as good in other industries, requires only a little faith, sustained, courageous effort, and the appreciation by American financiers of the earning power of research.

To Encourage Living at Home.

C. A. Prim, cashier of the Bank of Bonifay, Fla., writing to the MANUFACTURERS RECORD regarding an inquiry about rice-cleaning machinery, says:

"We hope to encourage our people not only to grow some rice, but other diversified products as well. If we can keep our money at home, instead of sending it away for pretty nearly everything, we can soon become more prosperous than at this time and less subject to distress when the one crop—cotton—is in trouble."

Golden Lake, in Misissippi county, Arkansas, has, after two years' work at an expenditure of \$150,000, been successfully drained, thus reclaiming 4000 acres of rich land.

Building at Parkersburg.

Board of Commerce,

Parkersburg, W. Va., February 20.

Editor Manufacturers Record:

During the present year in Parkersburg, W. Va., and vicinity there is construction planned which will cost over \$2,000,000. The P. M. & I. U. Railway Co. will build a \$500,000 power station to take the place of the present power-house. Sanderson & Porter, the noted New York electrical engineering firm, have had a corps of engineers here during the past few weeks going over the situation. The location has not been decided on as yet. Five hundred thousand dollars is the approximate cost, but the structure may even cost more than that. Work upon the structure will be commenced as soon as possible and pushed to as early a conclusion as possible.

The Baltimore & Ohio Railroad Co. will soon begin the construction of its \$500,000 freight depot.

Bonds were voted for the new high school, to cost \$250,000. Earlier in the year bonds had been voted for \$300,000 at 4 per cent., but as they could not be sold, a new issue was ordered and \$250,000 was voted at 5 per cent. The plans and specifications are all ready, and work is now going ahead in getting the amount of property desired. Two hundred thousands dollars was voted for bonds for city paving.

The Parkersburg-Ohio bridge will soon be commenced. The cost of the bridge is \$450,000. The bonds have been sold to Harris, Forbes & Co. of New York. The engineer is Hermann Laub, Keystone Building, Pittsburgh, Pa. The Dravo Construction Co. of Pittsburgh recently received the contract for the steel for the bridge. The Ohio people recently organized with the following officers: President, Dr. F. J. Prunty; A. W. Shinn, secretary and treasurer; O. D. McGrew, vice-president.

The Wood County Bank will spend \$60,000 in improvements on the bank building. Edw. Nelly is the president and Lyle Jones is the cashier.

The Masonic Temple, to cost \$100,000 when completed, is steadily growing, and is expected to be finished in a short time.

Forty thousand dollars will be spent in Clay district in road improvements.

The Second National Bank of this city has plans and specifications for a \$60,000 marble bank building to be built on the corner of 7th and Market streets.

J. W. Alexander and E. S. Wolfe, under the firm name of Alexander-Wolfe Paint & Glass Co., have opened a store in the Boreman Building. This firm will handle a stock of fine-grade paints, glass and wallpaper.

Surveys are being made for the new bridge which is to be built in Lauckport. It will connect Main street with Lubeck avenue and will reach over the ravine at that place. Work will probably be started very soon.

National Fertilizer Association.

The National Fertilizer Association will hold its twenty-second annual convention at Hot Springs, Va., July 13 and 14, and it is thought probable that the Southern Fertilizer Association will hold its annual meeting at the same place on July 12, while the Middle West Soil Improvement Committee of the National Fertilizer Association will meet there July 16 and 17. July 15 will be devoted to special committee meetings. The officers of the National Fertilizer Association are Gustav Jarecki, Jr., of the Jarecki Chemical Co., Cincinnati, O., president; George Braden of the Federal Chemical Co., Louisville, Ky., vice-president; C. H. Dempwolf of the York Chemical Works, York, Pa., treasurer, and William G. Sadler of Nashville, Tenn., secretary. These officers, with William Prescott of the American Agricultural Chemical Co., New York; W. D. Huntington of the International Agricultural Corporation, Buffalo, N. Y.; Charles G. Wilson of the Virginia-Carolina Chemical Co., Richmond, Va.; C. H. MacDowell of the Armour Fertilizer Works, Chicago, Ill.; Charles F. Burroughs of the S. F. Royster Guano Co., Norfolk, Va.; Charles Ellis of the Mutual Fertilizer Co., Savannah, Ga.; Frederick Rayfield of Swift & Co., Chicago, Ill.; Porter Fleming of the Southern States Phosphate & Fertilizer Co., Augusta, Ga., and William Abbott Smith of the Smith Agricultural-Chemical Co., Columbus, O., are the executive committee.

One View of Immigration at Present

By S. A. HUGHES, General Immigration Agent, Frisco Line.

Much is being said these days through the medium of the press and otherwise regarding agriculture, immigration, colonization and general farm development. Particularly is this true since the beginning of the European conflict.

Statistics reveal the potent fact that but 40 per cent. of the cultivable land within the confines of these United States is being cultivated, but 11 per cent. farmed up to the maximum and but one-third of our total population engaged at the present time in farm pursuits. We are, indeed, confronted with a condition, and not a theory, in the bread-winning problem of this country. Much theory is being indulged in today in discussing this most important problem, and there is one certainty, and that is, that greater results must come from the soil if we are to feed our own people properly, reduce the high cost of living and contribute to the world's sustenance. We must not only place more people on the land and co-operate with them closely in securing a greater and more profitable yield by the use of their brain and brawn, but we must also contribute to their happiness and contentment by advocating a better social intercourse, a feature in farming which appears to have been overlooked in most sections of our country. As a consequence, the people are leaving the farm and returning to the town and city, where they may escape a life of isolation and loneliness, a condition which has come under my personal observation while driving from farm to farm in the South and in the middle West, for the purpose of studying the true conditions of the farmer, and particularly the new settler.

In some localities the farmers have awakened to the situation and have organized farmers' clubs, where the men, women and children may meet monthly at the schoolhouse, where they are joined by the business men from town and all enter into a general discussion looking to improved farming methods, good public roads and various other subjects conducive to the welfare of all.

The General Government and the various States are doing good by working along the lines of improved methods in farming, but, as a matter of fact, we are in our infancy in this work, and it has practically just begun.

Appreciating the vital necessity of developing our local territory, the department of development, Frisco lines, was organized two years ago, under the direct supervision of Mr. Frank Anderson, and it is very gratifying to note the success which has been achieved by this organization, which was at first looked upon as problematical, and now a truism. The organization is complete, and is composed of men in charge of agriculture, immigration, industrial, farm demonstration, development and marketing. Results accomplished during the past year by close co-operation with the farmer, banker and business man in general in Frisco territory has proven the wisdom of the undertaking and is today looked upon as an asset to the railroad in its earning capacity and in a surplus of good-will and substantial gain to the farmers and business men as a whole. Through the co-operation of this organization the farmer is not only engaged in earning better and more profitable crops in Frisco territory, but the marketing of same is an important factor, as attested by the marketing of 3000 cars of apples throughout 15 different States during the past 90 days.

The South, by reason of the European war, is at present confronted with a serious problem in disposing of its cotton crop, which is but another argument in favor of raising diversified crops. Cotton is King in so long as it has a profitable market, but when confronted by adverse conditions as now exist it means much misery and woe to the people specializing in a single crop.

Upon the subject of European immigration, let me say that I have given this subject some thought, both at home and abroad, during the past 15 years, under normal conditions. The European war, of course, has changed things in general and the movement of foreign immigration to the United States is problematical at the present time. We hear much at the present time about the contemplated movement of Belgians, which is indeed inspiring from a sentimental standpoint, but in my humble opinion impractical at this time. The Belgians, taking them as a whole, are good farmers and good citizens, and we, as a people, deeply sympathize with them in their distress, as recently attested by substantial con-

tributions in the way of food for the men, women and children, but before we can expect to place these people on the land in our country we must study the existing conditions abroad and take into consideration the fact that the country is being destroyed and seven millions of people find themselves hemmed in between two contending armies, with little hope of relief and without home or money. Lord Kitchener of England would lead us to believe that this war will continue for three years, or it might come to an abrupt ending; but in either event there would be no way in taking care of these poor unfortunate people in our country, unless they are properly financed upon the farm and carried until such time as they can pay for their homes from the fruits of their efforts.

The question of placing these people on the farm as laborers, to be compensated by a wage, is all problematical, as they are unacquainted with our methods of farming and unable to speak our tongue, all of which should convince us of the impracticability of placing these people on the farm indiscriminately.

In conclusion, let me say that it is my opinion that when the war is ended the European countries will enact more stringent immigration laws with a view to retaining such able-bodied men as remain, to be used in the reconstruction of a country laid waste by the ravages of war.

We shall await coming events, in connection with the movement of European immigrants to the lands in America, with a great deal of interest, and we should take into consideration the practicability of taking proper care of a large number of homeless people and in the working out of their destiny.

I am inclined to believe that any great movement of European immigration to the farms of America is impractical at the present time.

St. Louis, Mo.

RIVER TERMINALS DISCUSSED.

Representatives of Mississippi Valley States in Convention.

[Special Correspondence Manufacturers Record.]

St. Louis, Mo., February 20.

The same earnestness that characterized the meeting in April, 1914, of the River Terminal Conference of the Mississippi Valley States prevailed at the second meeting, which was held here this week. Former Governor A. O. Eberhart of Minnesota presided. About 200 delegates attended, and the discussion that ensued covered the subjects of uniform terminals, depth of channel, types of boats, co-operation of railroads, competitive freight rates and the co-operation of business organizations and shippers up and down the Mississippi River and its tributaries.

It was decided to make the organization permanent, details being left to an executive committee with former Governor Adolph O. Eberhart of Minnesota, chairman, and consisting of two members from each of eight States participating in the conference. The organization will encourage the development of adequate river terminals along the Mississippi, Missouri, Ohio and Illinois rivers, in accordance with a generally accepted plan which will make it possible for freight to be handled in a practical uniform way at all points. The organization will not interest itself in anything except terminal facilities, and shall not assume the duties covered by other organizations now in existence, but will in every way seek to aid and assist them in their work. The outlines of the plan were embodied in a series of resolutions which endorse the work of the National Rivers and Harbors Congress as an essential agency in the development of the rivers and harbors of the United States, requested Congress to pass at this session the Rivers and Harbors bill so as to prevent delay in completing immediate improvements now being carried on by the United States Engineers, and recommended that in any State, city, town or village on waterways which is not authorized to create, maintain and operate adequate modern waterfront terminal facilities earnest efforts be made to obtain the necessary authority as soon as possible.

The conference brought about an interchange of views as to existing conditions on the river fronts, existing means for transportation and possibilities of betterments. Among the speakers were Governor Elliott W. Major of Missouri, ex-Governors David A. Francis of Missouri and Adolph O. Eberhart of Minnesota, Mayor Henry W. Keil of St. Louis, Mayor Alexander Grouchy of Baton Rouge, Mayor S. W. Morehead of Keokuk, Iowa; President Sam Lazarus of the City Council of St. Louis, Commissioner Robert H. Manley of Omaha, Neb.; City Attorney I. D. Moore of New Orleans, A. W. Mackie of the Kansas City (Mo.) River Transportation Co., Richard Clarke Wilson of the New Orleans Association of Commerce, William F. Decker of the Minneapolis Civic and Commercial Association, Emil Weil of the Evansville (Ind.) Chamber of Commerce, Secretary S. A. Thompson of the National Rivers and Harbors Congress, H. G. Gardner of Chicago, George T. Page of Peoria, Ill.; Raymond Marsh of Davenport, Iowa; Geo. H. Davis of Ford, Bacon & Davis, New Orleans and New York; Cyrus P. Waldrige, chairman of the St. Louis City Plan Commission; J. B. Rucker of Baton Rouge, City Engineer J. H. Weatherford of Memphis, Tenn., and J. W. Falls of the Business Men's Club of that city, J. W. Cooper of St. Paul, Minn.; C. F. Perry of Quincy, Ill., and others.

The conference was held, as before, under the auspices of the Business Men's League of St. Louis, Mr. Thomas H. Lovelace of that organization being secretary of the conference.

A. C. BOUGHTON.

Printing at Nashville.

[Special Correspondence Manufacturers Record.]

Nashville, Tenn., February 15.

Nashville ranks sixth in the United States as a printing center. A careful survey made by one of the craft of the printing manufacturing in Nashville brings to light interesting facts.

Nashville has 40 book and job printing, lithographing, bindery and allied plants, which includes engraving and electrotyping concerns. An average of 1500 people are employed by them, which draw over \$1,000,000 in pay each year, and this does not include the forces on the daily papers. These 40 concerns turn out \$3,121,000 worth of printing yearly. In addition, approximately 500 other people are employed by the daily newspapers, wholesale paper houses and private printing plants. These organizations add approximately another million dollars to the above total for production.

It is estimated that 60 per cent. of the operating cost of a printing plant is for labor. In Nashville about \$25,000 is paid out weekly, which makes the average printer's pay about \$700 per annum.

There has been some agitation lately on the part of other cities to move several of the largest religious printing houses to other cities on account of their affiliations, but Nashville people claim this is not a practical move, and therefore are not anticipating retarding measures to their one big business.

ROY G. BOOKER.

National Forest Activities.

Selling some billion and a half board feet of timber and supervising the cutting on several thousand different areas, overseeing the grazing of more than 1,500,000 cattle and 7,500,000 sheep and building more than 600 miles of road, 2000 miles of trail, 3000 miles of telephone line and 700 miles of fire line are some of the things which the Government forest service did last year, as disclosed in the report by the chief forester for 1914. These activities were all on the national forests, which at present total about 185,000,000 acres. Receipts from all sources were \$2,437,710.21.

For the Peanut Industry.

F. W. Betts, secretary of the Hopkins County Truck Growers and Shippers' Association, Sulphur Springs, Tex., states that 2000 acres within a radius of ten miles of Sulphur Springs will be planted in peanuts, and that he is desirous of corresponding with manufacturers of peanut machinery or parties who will be interested in establishing a peanut plant.

Studying the Missouri.

A systematic study of Missouri River and its tributaries is being carried on by the United States Geological Survey. Considering the varied character of the streams of the Missouri River basin and their great economic value for irrigation, power and other purposes, the investigation is one of the highest importance.

The water supply of this great drainage area is the subject of a publication recently issued by the Geological Survey, entitled "Surface Water Supply of the Missouri River Basin, 1912" (Water-Supply Paper 326), by W. A. Lamb, Robert Follansbee and H. D. Padgett. This report contains the records of flow at 130 permanent stations of the Survey during the year 1912, data which are necessary to every form of water development, whether it be water-power, navigation, irrigation or domestic water supply. Some of the tributary streams are exceedingly variable in flow; others, like the Niobrara in Nebraska, are remarkably uniform.

The Missouri proper is formed in Southwestern Montana by the junction of three streams which were discovered by Lewis and Clark in 1806 and were named by them Jefferson, Madison and Gallatin rivers. Of these three, Jefferson River drains the largest area and is considered the continuation of the main stream. This part of Montana is mountainous and affords many excellent water-power sites. Among the principal tributaries of the Missouri are the Marias, Musselshell, Yellowstone, Cheyenne, Platte and Kansas. The western part of the basin is in the arid belt and the eastern part is in the semi-arid and humid regions.

Ten States of the Union are drained in part by Missouri River. Rising at the Red Rock Lakes, at an elevation of 6700 feet above sea level, this stream descends through the Rocky Mountains and emerges on the broad prairie land a few miles below the city of Great Falls, Mont. From that point it is accounted a navigable stream with an easy grade, and in passing through the Dakotas and along the borders of Nebraska, Kansas and Iowa it receives the flow of great tributaries, so that as it crosses the State of Missouri and joins the Mississippi a short distance above St. Louis it becomes one of the large rivers of the world. Its total drainage area is about 492,000 square miles in extent, and comprises, in addition to the States above mentioned, large areas in Wyoming and Colorado and a smaller area in the southwestern part of Minnesota.

Southern Industrial Development.

Editor Manufacturers Record:

Economists who have predicted that Alabama and the other Southern States would soon take on a new impetus of industrial development have ample reasons for holding such predictions. Waterways, railways, public highways and other phases of transportation are the commanding factors with which industrial developments of any section must be reckoned; without them progress is impossible. The Southern States, although having many trunk lines of railroad and good rivers with which to send out products from the bountiful resources, has needed additional ways to afford ample circulation of our commerce.

The Government has caused to be completed the opening of the Warrior River, which pierces the very heart of the Warrior coal field, and has thus greatly enhanced the carrying on of the coal operations as well as the iron. Ample preparations for taking care of the coal has been made at Dauphin Island near Mobile; barges have been made by several of the large corporations of the Birmingham district, and likewise other preparations have been under way to start and continue an active trade in the practically inexhaustible minerals in this State.

The South is bound to reap great benefits in any extension of trade with South America from its physiographic situation and the products it has that are needed in South America. This, coupled with the fact that the Panama Canal has given additional advantages to Southern territories having industrial enterprises, has given a significance to our section attractive to the financial world as it has not before. Railroads are being proposed through sections having coal and other mineral values, and despite the crisis engendered by the European war, and sudden changes in tariff, etc., the construction of railroads, opening of new waterways and

other improvement for transportation are being and will continue to be consummated.

With its God-given wealth the South invites wealth of the most conservative investors, and the South can freely promise liberal profits as it points to its records of the past.

In addition to the vast coal fields lying in North Alabama, there are a number of very valuable tracts of red hematite ores in Jefferson and Tuscaloosa counties, which can be had for \$20 to \$150 per acre, and on terms very attractive to those desiring immediate development. There are also shale properties available in St. Clair county, which would be very good investments for a concern manufacturing building materials. Limestone is available in Shelby, Jefferson and other counties, and in close proximity to the other materials.

It is well known that the good profits that have always characterized Southern manufacturing in metals is accountable by the variety of materials available without delays from lack of any of these being brought from another territory. Iron, both brown and red, coal, limestone, shale and other requisites for the large industrial plants are in close proximity and in ample quantities, and in many cases inexhaustible.

In Winston county, where mining interests have been reaping profits for 15 years, there are some very propitious coal lands yet available at a price that is astounding. The Illinois Central Railroad Co. has already built its line from Corinth, Miss., to Haleyville, en route Birmingham and the Southern ports, and they have surveyed through the western portion of the county with a view of extending their line through the main coal field. Bonds for the construction of such road were issued

last May (1914). It is believed that the construction of the road would have already been under way were it not for the depression in financial matters existing just now.

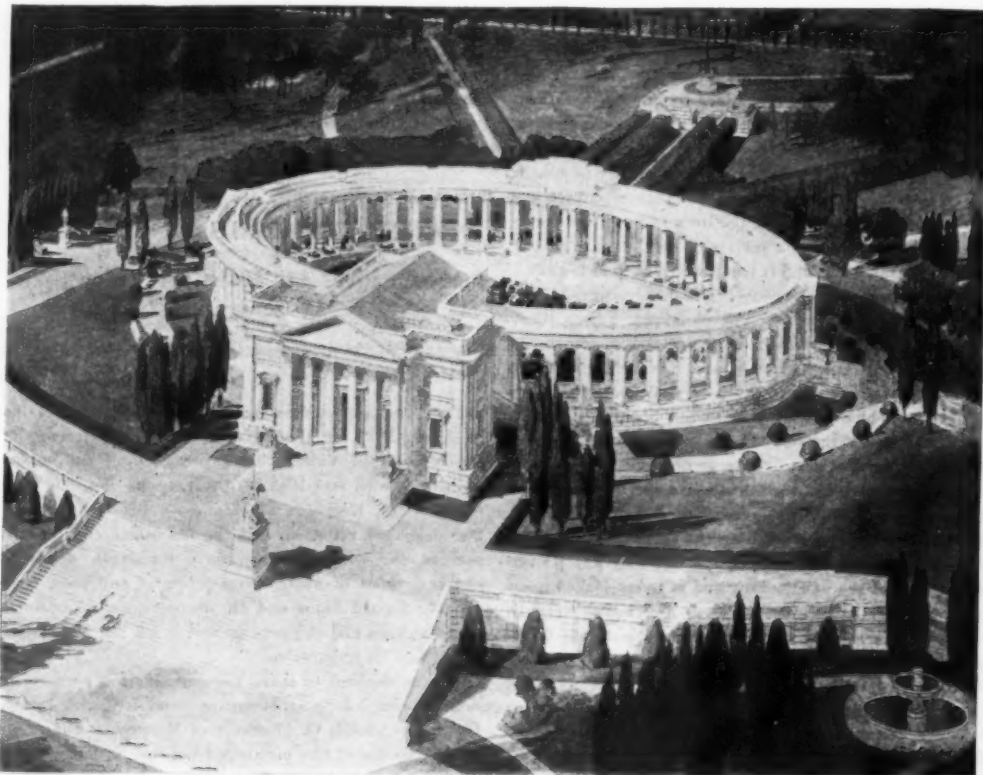
Taking all things into consideration, although impoverished by the low price of cotton, although not having previously fed herself, the South may assuredly look for a progress in her mining, manufacturing, agricultural and other industries within the next few years.

WALTER L. SHADDIX.

Wood, Ala.

Imported Potash Supplies.

In the fiscal year ended June 30 last the United States imported 1,066,929 tons of German potash salts for fertilizers. In the last six months of the past calendar year only 184,192 tons were imported, or 383,403 tons less than in the same period in 1913. This situation is recognized in the action of the German potash syndicate, which, according to a cablegram from the American Consulate-General at Berlin, decided to form a commission to consider means for denaturizing potash salts so as to preclude the possibility of using them for ammunition and military purposes and making them valuable only as fertilizers. Upon receipt of the report of the commission the potash syndicate will confer with the Government relative to moderating the embargo on potash. The syndicate, says the cablegram, would be seriously embarrassed by the continued absolute embargo—from January 29, 1915—and large quantities of salts now under way would be detained.



ARLINGTON MEMORIAL AMPHITHEATER.

Arlington Memorial Amphitheater.

Contract for the erection of the Arlington Memorial Amphitheater at Arlington, Va., has been awarded by the Arlington Memorial Amphitheater Commission, Col. Wm. W. Harts, executive and disbursing officer, Washington, D. C. The building will be in the shape of an ellipse, measuring about 280 feet between the two side entrances. There will be an administration building, chapel and amphitheater, the latter being surrounded by a colonnade. In the basement of the amphitheater there will be a kitchen, boiler-room, ladies' and men's toilet, large storeroom, and in the rear, facing the amphitheater, a large chapel, which will connect on the right and left to corridors and future crypts under the colonnade. The amphitheater will be open and have a seating capacity of approximately 5000, while the top of the colonnade

will afford a seating capacity of about 3000. The administration building will be two stories and basement, the first floor to contain two large reception-rooms and reception hall, and in the rear a large open stage connecting with the amphitheater. The entire building, including the colonnade, will be faced with Danby Vermont marble. It will be of fireproof construction, with tile and cement roof, and equipped with a low-pressure two-pipe steam system. Plans and specifications were prepared by Carrere & Hastings, New York, and the general construction contract awarded to the George A. Fuller Company, Washington. The cost of the structure, without mechanical equipment, will be about \$600,000. Subcontracts awarded to date are as follows: Electrical work, Capital Electric Co., Washington; exterior marble, Vermont Marble Co., Proctor, Vt.; steel framing, John Eichleay, Jr., Company, Pittsburgh; fireproofing, National Fireproofing Co., Pittsburgh.

Influences to Revival of Industry.

"Build Now" Results at Rome.

Chamber of Commerce,
Rome, Ga., February 19

Editor *Manufacturers Record*:

The "build now" campaign inspired by the MANUFACTURERS RECORD and launched by the Rome Chamber of Commerce has brought results that can be counted in the coin of the realm as well as results of so much greater value that they cannot be measured by the most sanguine.

As a result of this campaign, the city of Rome recently voted bonds for a \$100,000 municipal building and \$50,000 for a public hospital. Also the Southern Bleachery Co. has located here and is now constructing a \$25,000 plant for cleaning and bleaching cotton lint-ers. The Anchor Duck Mills are making a \$60,000 addition to their large and modern equipped mills; the Martha Berry School has let contract for a \$25,000 dining hall; C. W. Smith & Co. of Cedartown, Ga., has purchased ground and will erect a cotton warehouse to cost between \$10,000 and \$15,000; Linthicum & Linthicum of Durham, N. C., architects, are preparing plans for a 10-story office building costing approximately \$100,000; C. T. Hollinger and associates of Cincinnati have decided to locate a large ice-cream factory in Rome, an investment of \$5000 to \$10,000. Shorter College is arranging to construct an additional \$40,000 dormitory, and the county of Floyd is expeditiously engaged in preparing plans and specifications for three concrete bridges in Rome to cost approximately \$200,000, as well as a number of individuals who have caught the germ of inspiration and confidence and are letting contracts to erect dwellings and other buildings of commercial value to this city.

Some of the above items have already been noted in your publication. I am giving you this information in concrete form merely in order to substantiate the prediction of the MANUFACTURERS RECORD and the Rome Chamber of Commerce, that the voting of bonds for municipal improvements would be the forerunner of a general building activity in this community.

Practically all of the above buildings are assured; in fact, architects and contractors have already been selected for a large portion of the work, and it is planned to get all of the work started in the next 30 to 60 days.

Rome has the brightest outlook for a busy and prosperous summer she has ever had, but this, in the writer's opinion, is only the beginning of the building activity in this city and community, so keep your eye on Rome for future development.

Mr. A. Ten Eyck Brown of Atlanta was today selected as architect for the municipal building.

H. A. WHEELING, Secretary.

Jacksonville's Build Now Campaign Enlarges.

Jacksonville, Fla., February 15.

Editor *Manufacturers Record*:

The Build Now campaign in Jacksonville has gathered momentum until its influence is being felt all over the entire State. The Build Now committee has issued about \$40,000 worth of Build Now certificates for small and expensive homes as well as for some small stores. The movement is being pushed consistently and systematically by the committee of the Real Estate Exchange that has the work in charge. Not only has the erection of new buildings been stimulated, but material men report that they are selling a great deal of material for remodeling and repair work. This is especially gratifying to the Exchange, as one of the purposes of the movement was to bring about the rehabilitation of run-down property.

There are many jobs of construction being contemplated that will start under the Build Now movement a little later, and the committee will announce them as soon as permitted to do so.

The material found in the columns of the MANUFACTURERS RECORD has been of invaluable aid to the committee in its publicity work. A special Build Now page is carried daily in both local papers, the *Metropole* and the *Times-Union*, on which is placed the advertising of the material men and the news matter of the movement. Time and again articles and excerpts from the

MANUFACTURERS RECORD have been reproduced on these pages for the benefit of those who are not so fortunate as to see them before. It would be utterly impossible to estimate the good that will be derived by the entire South from the Build Now movement that has been started and loyally supported by the MANUFACTURERS RECORD.

A. F. DONALDSON,

Publicity Manager Build Now Committee.

On Doing Public Work Now.

W. N. Brown, of Brown & Clarkson, Washington, D. C., writes to the MANUFACTURERS RECORD:

"We are thoroughly convinced of the soundness of your views concerning the Doing of Public Work Now. We take it that true economy lies in the wise expenditure of money, and not in how little is spent. One of the criterions of the wise expenditure, and therefore of economy, is the amount of work accomplished for each dollar expended. Today, when the workman needs money so badly, is the time when most can be accomplished with the money.

"Then again, the necessity for every piece of public work is based upon its economic value to the community it serves, be it road, street or sewer. If street improvement, it must be justified by the actual money saving it affords to the community in economic transportation and affording a ready means of communication; if sewer, it must be justified in the increased health, and therefore the increased earning capacity, of the citizen. At no time is a community less able to stand these losses than during a time like the present. Each day of postponement means the loss of money to each citizen when he can ill-afford to lose it.

"Each city often says, 'But we have no neglected public works that cost the citizen money.' Yet it is a fact that cannot be successfully controverted that a study of the conditions will reveal that in every municipality there are neglected public improvements, whose neglect costs the taxpayer, either directly or indirectly, each year several times the amount of his share of the taxes necessary to make the said improvement."

Southern Power Co. Extensions.

The Southern Power Co., Charlotte, N. C., will construct a 100,000-volt double-circuit steel tower transmission line from Belton to Anderson, S. C., to be a link in the line from Seneca via Anderson to Greenwood. From \$75,000 to \$100,000 is the estimated cost. Necessary switches will be installed in the Tribble street station at Anderson, and at first the transmission line from Belton to Anderson will be operated at 40,000 volts, being connected at Belton with the pole line from Greenville to Greenwood. The total length of the tower line from Seneca to Greenwood will be 65 miles, and after its completion there will be other links constructed. This company is distributing about 129,000 electrical horsepower, of which 105,000 is from its own developments. It develops 32,000 horse-power at Great Falls, 10,000 at Catawba Falls, 24,000 at Ninety-Nine Islands, 13,000 from each of three steam plants at Charlotte, Greensboro and Greenville, buys 14,000 from the Georgia Power Co.'s Tallulah Falls development and 10,000 from the Carolina Light & Power Co., whose plant is near Fayetteville, N. C. It is now developing Lookout Shoals, near Shelby, N. C., where 24,000 horse-power will be developed, and is building a fourth steam plant near Charlotte. It owns five undeveloped shoals.

Pulp and Chemical By-Products.

The Economic Power & Products Co. has chosen Greenwood, Miss., as the location of its plant and purchased a 15-acre site. It is preparing plans for the buildings and has contracted for the boilers, digesters and other machinery, the daily capacity to be at least 50 tons of pulp. Cotton stalks will be the raw material. This corporation was organized with a capitalization of \$10,000,000, and was mentioned some months ago as considering the erection of its plant at Yazoo City. Its secretary is Wm. D. Miller, with offices in the Lafayette Building, Philadelphia, Pa.

How Benefits May Come to the South.

J. A. Pride, general industrial agent, Seaboard Air Line Railway, writing from Norfolk, Va., says:

"The Southern people are better off than some assume. I have been out in the country back from the railroad and visited numerous farms, and a great many of them had plenty of food supplies and good stock and were in no immediate necessity for difficult living. My conviction is that if we can emerge from this situation with two things strongly instilled in our minds that great benefits will result to the South. First—That greater diversification, cattle raising, etc., must make for the future prosperity of the section. Second—That our cotton manufacturing industry must be enlarged. Greater markets for cotton goods can be reached than we are now serving, and it is my conviction that a strong and consistent effort should be made to install our cotton goods in the States south of the Panama Canal. If we had a fair proportion of that trade, and I believe we can get it, it would mean new cotton spindles, greater employment and greater diversified cultivated area in the South. The stand which you have taken in these matters is of great value to the South, and, I believe, deeply appreciated."

Important Enterprise for Martinsburg.

Arrangements have been completed for organizing the Municipal Shale Brick & Block Co., recently noted as planned for establishment at Martinsburg, W. Va. The company has been incorporated by the following: M. J. Beach, contractor; Samuel A. Vervelen, president of Hudson Cement & Supply Co.; both of Baltimore; Henry P. West, president, and L. Perry West, secretary-treasurer, of West Bros. Brick Co., Washington, D. C.; J. W. Candler of Deckman-Duty Brick Co., Cleveland; Herbert W. Geslwind, engineer and contractor, Philadelphia; F. Vernon Aler and Allen B. Noll, Martinsburg. An immediate expenditure of \$150,000 is proposed to build plant with daily capacity of 60,000 paving blocks, to be increased to 80,000 by midsummer, and to expend \$100,000 to add departments for manufacturing bricks, sewer pipe, vitrified fireproofing, etc. A steam power installation requiring two carloads of coal daily will drive the company's plant. A 90-acre site will be developed for the enterprise.

Wants Street Railway Accessories.

Peninsula Rapid Transit Co., G. L. Verlander, Secy., Salisbury, Md., writes to the MANUFACTURERS RECORD as follows:

"We would like quotations on street-car accessories, such as cash-fare registers, bell ropes, printed tickets and transfers, conductors' badges, etc."

To Manufacture Oak Flooring.

Construction has begun on a plant for the Arkansas Oak Flooring Co., Pine Bluff, Ark. The daily capacity will be 30,000 feet of oak flooring, and the company was recently organized with a capital of \$50,000. Officers as follows: President, L. N. Anson of Merrill, Wis.; vice-president, Geo. M. Anson; H. W. Coles, secretary and manager; J. W. Reynolds, treasurer.

A \$972,544 Contract Awarded.

Contract for constructing the lock and dam No. 33, on the Ohio River, near Maysville, Ky., has been received by the Bates & Rogers Construction Co. of Chicago at \$972,544. This company was recently named as the lowest bidder, and Lieut.-Col. H. Jervy, Engineer, U. S. A., offices at Cincinnati, has awarded it the contract.

The first 1915 edition of 25,000 copies of the "Book of Louisville and Kentucky," edited by Robert W. Brown for the Louisville Convention and Publicity League, is a splendid exposition of the attractions and opportunities of the city and the State.

FOR WAGE-EARNERS' WELFARE.**One Year's Operations of the United States Steel Corporation.**

Some measures of the extent of welfare work by industrial corporations of this country is given in a special bulletin of the Bureau of Safety, Sanitation and Welfare of the United States Steel Corporation, reproducing in a hundred pages a part of the bureau's exhibit at the Panama-Pacific Exposition. The exhibit falls into 14 main divisions—organization, safety, first aid and rescue, voluntary accident relief plan, hospitals, sanitation, mill restaurants and lunchrooms, housing, gardens, district and visiting nursing, recreation, education, stock subscription plan and pension.

A statistical statement for 1913 shows that in that year the subsidiary companies of the Corporation produced 28,738,451 tons of iron ore, 30,786,573 tons of coal, 16,663,480 tons of coke, 6,338,509 tons of limestone, 14,080,730 tons of pig-iron and 16,656,361 tons of steel ingots, and 12,374,838 tons of finished steel products for sale, including 2,602,953 tons of rails, railroad material, car wheels and axles, 2,106,771 tons of heavy plates and structural shapes, 2,024,192 tons of merchant and bar-mill product, 1,606,660 tons of wire and wire products, 1,186,740 tons of pipes and tubes, 1,289,537 tons of sheets and tinplate, 652,363 tons of fabricated bridge and structural work and 914,622 tons of all other steel products, together with 11,197,000 barrels of cement.

In that year the United States Steel Corporation paid \$207,206,176 in salaries and wages to 165,277 employees in manufacturing properties, 24,996 in coal and coke properties, 13,789 in iron-ore properties, 21,951 in transportation properties and 2893 in miscellaneous properties, a total of 228,906 employees, and for accident relief, accident prevention, sanitation and welfare, pensions, additional benefits and administration allowances under stock subscription plan and toward the creation of a permanent welfare fund, \$7,240,669.33.

Effective Land Reclamation.

An interesting development of the operation of the great Hero drainage district pumping plant, reclaiming about 32,000 acres of wet lands near New Orleans, was the putting out of business of the Algiers drainage plant. The New Orleans Times-Picayune says that this latter plant, which took care of the drainage of Algiers, was within a few hours after the Hero plant got into action, left high and dry on a hill, instead of lying level with the canal that had brought the surplus water to it, or with the outfall canal, which took the water away and emptied it in the Bayou Barataria. The drought extended even farther and left a large part of the outfall canal dry land.

Carolina Power & Light.

The report of the Carolina Power & Light Co. for the year 1914 shows gross earnings, \$618,680; operating expenses and taxes, \$412,834; net earnings, \$205,855; total income, \$258,355; balance after interest, etc., \$99,362. In 1913 gross earnings were \$525,213; net earnings, \$190,655; total income, \$240,655; balance after interest, etc., \$105,019. Total customers in 1914 were 8669, as compared with 7813 in 1913. The company operates in Raleigh, Durham, Goldsboro, Henderson, Oxford, Sanford, Jonesboro, Fayetteville, Clayton, Smithfield, Selma, Franklinton, Pine Level, Cumberland, Roxboro and other points in North Carolina.

Packages for Lump Lime.

E. Dillon's Sons, Indian Rock, Va., write to the MANUFACTURERS RECORD as follows:

"We would like to have information and prices from manufacturers on water-tight packages, both wooden barrels and light metal casing, to be used for lump lime in the export trade."

The Chamber of Commerce of Denison, Tex., W. N. King, secretary, has published a folder-booklet designed to set forth briefly the advantages of the city as a manufacturing, jobbing and transportation center.

Good Roads and Streets**SOUTHERN HIGHWAY ACTIVITIES.****Details of Week's Progress in Improvements in City and Country.**

Further details of road and street undertakings and bond issues mentioned below are given under the headings Construction Department and New Securities, published elsewhere in this issue.

The MANUFACTURERS RECORD invites from its readers information about road and street work projected or under way, photographs of good roads and discussions of matters pertaining to the betterment of the highways of the South.

Bonds Voted.

Boydton, Va.—Mecklenburg county voted \$30,000 bonds to construct roads in Bluestone Road District.

Winston-Salem, N. C.—City voted \$50,000 bonds for street paving.

Bonds to Be Voted.

Anderson, S. C.—City votes March 16 on \$100,000 bonds to pave streets.

Anderson, S. C.—Anderson county votes March 30 on \$750,000 bonds to construct roads.

Carlisle, Ky.—Nicholas county votes March 17 on \$125,000 bonds to construct roads.

Halettsville, Tex.—Lavaca County Justice Precinct No. 3 votes March 20 on \$20,000 bonds to construct roads.

Hahnville, La.—St. Charles Parish Road District No. 2 votes March 9 on \$70,000 bonds to construct gravel road.

Longview, Tex.—Gregg county votes March 18 on \$300,000 bonds to construct roads.

Taylor, Tex.—City votes March 18 on \$100,000 bonds to pave streets.

Titusville, Fla.—Brevard County Third Road District will vote on \$150,000 bonds to construct roads.

Contracts Awarded.

Baltimore, Md.—City awarded \$45,307.70 paving contracts.

Birmingham, Ala.—City awarded contract for grading, curbing, guttering and sidewalk paving, including 1500 cubic yards excavation, 1300 linear feet combined cement curb and gutter, 700 square yards cement sidewalk.

Dallas, Tex.—City awarded \$2066 paving contract. Fort Worth, Tex.—City awarded contract for 4167 square yards of street paving.

Jasper, Ala.—Walker county awarded contract to grade three miles of road; \$250,000 available for road improvements.

Lexington, Ky.—City awarded \$8246 contract to clean, repair and oil 31 miles of macadam streets for ensuing year.

Midlothian, Tex.—City awarded contract to construct 5000 linear feet of cement sidewalks.

Sarasota, Fla.—City awarded contract to construct 1 3/4 miles of sidewalks.

Contracts to Be Awarded.

Atlanta, Ga.—City appropriated \$20,000 for repairs to asphalt streets.

Baltimore, Md.—City receives bids until March 3 for 49,100 square yards of sheet asphalt, 6800 square yards of vitrified block and 1000 square yards of granite block paving.

Hazlehurst, Miss.—Copiah County, District 5, will construct gravel roads; \$150,000 available.

Hendersonville, N. C.—Henderson County Mills River Township will arrange to construct roads; \$20,000 bonds available.

Leitchfield, Ky.—Grayson county will construct six or eight miles of metal road; \$100,000 available.

Louisville, Ky.—Jefferson county invites bids for 5000 square yards of macadam to be used in repair and reconstruction of 10 miles of road.

Marion, Va.—Smyth county opens bids March 1 to grade 20 miles of road.

Marshall, N. C.—Madison county receives bids until March 16 to grade and drain 6.9 miles of road; about 73,550 cubic yards of excavation.

Morgantown, Ky.—Butler county Fiscal Court will expend \$10,000 to construct roads.

Pineville, Ky.—Bell county will construct 54 miles of macadam road, etc.

Springfield, Ky.—Washington county will construct about 60 miles of roads, for which State aid will be asked.

Vicksburg, Miss.—Warren county receives bids until March 2 to build about five miles of hard-surfaced road; novaculite.

The Cotton Movement.

In his report for February 19 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 203 days of the present season was 11,459,241 bales, a decrease under the same period last year of 1,405,590 bales. The exports were, 4,908,538 bales, a decrease of 1,894,578 bales. The takings were, by Northern spinners, 1,782,855 bales, a decrease of 294,466 bales; by Southern spinners, 2,149,665 bales, a decrease of 219,641 bales.

Needs Steam Shovel Contractor.

Rapides Gravel Co., Geo. K. Force, manager, Alexandria, La., writes to the MANUFACTURERS RECORD as follows:

"We have recently opened up a large gravel deposit near Woodworth, La., and have a bank about 35 feet high and 2400 feet long, and are looking for a steam shovel contractor to take the contract loading our 300,000 to 500,000 cubic yards of gravel and sand for us at so much per cubic yard loaded on the railroad cars."

Textile Notes.

J. B. Jackson of Alpha Cottage Industries, Ormond, Fla., plans to establish a rug-weaving factory.

Trenton Cotton Mills, Gastonia, N. C., does not contemplate building an addition; recent report was an error.

Elford Manufacturing Co., Albemarle, N. C., is not planning to add looms, and last week's report was, therefore, erroneous.

250 Tons of Sand Daily.

Bids are now being received on machinery to provide a daily capacity of 250 tons of sand for the Round Top Glass Sand Co., which has been organized to develop sand property at Hancock, Md. Hydraulic equipment will be used, and a 187-acre tract of land will be developed. Wm. P. Lane is president, and J. C. Lane is treasurer, both of Hagerstown, Md.

1200 Tons of Coal Daily.

A daily output of 1200 tons of coal is proposed by the Maher-Purglove Mining Co. of Cleveland, O., now daily awarding contracts for machinery to be installed at Chauncey, W. Va. This company plans the development of 1000 acres of coal land recently secured.

To Mine West Virginia Coal.

Pennsylvania investors will develop coal land near Marpleton, W. Va., and have incorporated the Marpleton Coal Co., with \$200,000 capital. They are L. O. Knipp of Philadelphia, Theo. Switzer, Joseph, Fred and Theodore Bittenbender of Plymouth, Pa.

For Cottonseed Utilities.

The Cottonseed Utilities Co., P. O. Box 803, San Antonio, Tex., wants descriptions and prices on the following cottonseed machinery: Oil mills, seed cleaners, presses, cookers, oil refineries, cellulose, paper stock.

M. Mitchell Wilson of Indianapolis, Ind., has published a "Field-Glass View of Bookkeeping," in which he presents in skeleton form the underlying principles of the science of accounts in the hope that they may prove to be a useful key to a study of the subject.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

NORTHERN CENTRAL REPORT.

Railway Now Operated Under Lease by the Pennsylvania Railroad Co.

The sixtieth annual report of the Northern Central Railway Co. has been issued, covering the calendar year ended December 31, 1914. In consequence of the lease of the line to the Pennsylvania Railroad Co. becoming operative, the income statement for the last six months is presented in a form different from the first six months, when the road was directly operated by the Northern Central Railway Co. as before.

For the six months ended June 30, 1914, the railway operating revenue was \$6,061,643; the railway operating expenses, \$5,673,769, and the net revenue from operating, \$387,873. Adding to this the net revenue from auxiliary operations of the company made the net railway operating revenue \$391,458. Deducting from this railway tax accruals left the railway operating income at \$163,827. Adding to this income from other sources made the gross income \$1,027,953, from which there was deducted interest, rentals, etc., leaving the net income of the company \$453,636 for the period named. After the appropriation for the dividend of July last there was a deficit of \$351,938.

The statement for the last six months of the year is brief. It shows: Rental received from lease of road, \$1,259,341; total deductions for interest on funded debt and organization expenses (the latter only \$2500), \$176,157; net income, \$1,083,184, which was declared as the dividend of January 15, 1915.

The total amount to credit of profit and loss December 31 was \$3,679,956.

The lease of the Northern Central to the Pennsylvania Railroad dates from January 1, 1911, although, owing to litigation, it was inoperative for more than three years. When the lease was made effective a settlement of accounts between the lessor and the lessee was attained and presented to the directors by a special committee and it was approved. It was also certified as to correctness by a firm of chartered accountants.

It is stated that with decreasing traffic and the unsettled business and financial outlook, accentuated by the European war, improvement work was limited to urgent needs. The net expenditures for additions and betterments during the year (\$94,784) were principally on account of the installation of car battery charging facilities at Union and Calvert stations, Baltimore, the purchase of land at Canton and the freight-yard extension at York, Pa. Under the lease all future expenditures for road and equipment will be paid by the lessee, which will be reimbursed out of the treasury, etc., after their approval by the Northern Central's directors.

The capital stock was increased 40 per cent. in amount during the year, and the new stock was issued to stockholders to represent a part of expenditures theretofore made for road and equipment properly chargeable to capital account.

A Low-Grade Double-Track Line.

The Norfolk & Western Railway Co. has been authorized by the Virginia Corporation Commission to build its proposed low-grade line between Burkeville and Pamplin City, Va., about 38 miles. This line will be double-tracked, and will have a maximum grade of not more than 1 per cent. against eastbound traffic and of not more than 4 per cent. against westbound. The present line between those points has more than 4¼ per cent. against eastbound and more than 8 per cent. against westbound trains. While the new road will be about 1½ miles longer than the existing line between the points named, it will be more practicable because of its much lower grades. Its curvature will also be much lower as compared with the old route, and intersecting highways will be carried either over or under the tracks. It is expected that construction will soon be undertaken.

WESTERN MARYLAND GRAIN ELEVATOR

Final Plans for \$500,000 Buildings and \$150,000 Machinery.

Western Maryland Railway officials have adopted final plans for the grain elevator to be built at the company's Port Covington terminal at Baltimore. The elevator will be a double building, 185x128 feet and 62x72 feet, 7 stories, 190 feet high, permitting ships to dock and load from either or both buildings. Reinforced concrete fireproof construction throughout has been chosen, the cost to be about \$500,000, while the machinery will include elevating, conveying, cleaning, drying and electrical equipment costing about \$150,000. The elevator and storage-house capacity will be 900,000-bushels, 30,000 bushels to be received and 45,000 bushels to be discharged per hour. James Stewart & Co., Chicago, to whom contract was recently awarded, will both construct the buildings and furnish the machinery, and on the latter is now receiving bids. Max Toltz of the Toltz Engineering Co., St. Paul, Minn., is the architect-engineer, and M. C. Byers of the Western Maryland Railroad is the construction engineer.

The railway company has also awarded contract to the Sanford & Brooks Company, Baltimore, for 300,000 yards of dredging, 1124 feet concrete bulkhead and timber retaining walls (177 and 375 feet), and James Stewart & Co. have let contract to the Sanford & Brooks Company for 11,000 yards of grading for elevator, transformer and boiler-houses, and driving 700 piles.

Baltimore & Ohio Statement.

The Baltimore & Ohio Railroad reports earnings and expenses for January, 1915, as follows: Operating revenue \$6,486,271, decrease as compared with the same month of last year \$920,144; total operating expenses \$4,953,703, decrease \$882,537; net operating revenue \$1,532,478, decrease \$37,607. In the reduction of expenses it is shown that transportation expenses were \$573,752 less and maintenance of way and structures \$241,218 less than a year ago.

The statement of the company covering the first seven months of the current fiscal year shows operating revenue \$33,624,706, decrease as compared with the corresponding period of last year \$7,438,555; total operating expenses \$39,065,102, decrease \$6,126,267; net operating revenue \$14,559,604, decrease \$1,312,288. Transportation expenses were reduced \$3,144,635 and maintenance of way and structures \$2,356,512 as compared with last year.

These statements include business of the company hitherto presented in separate statements and classed as outside operations.

Coal Pier at Charleston.

The Southern Railway Co. will probably complete its new coal pier at Charleston, S. C., by May 1. About 80 per cent. of all the piles have been driven and practically all of the machinery has been completed at the factory. The piers are constructed of creosoted piles, capped with concrete. The dock for the movable tower is about 500x35 feet. The dock work is being done by the company's own forces. The car dumper trestle is about 37 feet long. The approximate cost of this coaling station is \$500,000. The machinery contractor is the Wellman-Seaver-Morgan Company of Cleveland, O. The capacity of the machinery in operation will be 1000 tons of coal per hour.

New Equipment, Etc.

San Antonio, Fredericksburg & Northern Railway, M. H. Trice, receiver, San Antonio, Tex., is in the market for 20 standard box cars of 60,000 pounds capacity.

Atchison, Topeka & Santa Fe Railway has ordered 700 box cars from the Haskell & Barker Car Co., Michigan City, Ind.

Missouri, Kansas & Texas Railway is getting prices preliminary to ordering 20 Mikado type and 10 Pacific type locomotives.

Atlantic, Waycross & Northern Railway, L. Johnson, president, St. Mary's, Ga., has ordered 26 miles of rails for the proposed extension from Kingsland to Folkston.

Vicksburg, Shreveport & Pacific Railway has ordered

1502 tons of steel from the Modern Steel Structural Co. for its Red River bridge.

Chesapeake & Ohio Railway will buy 20 Mallet type locomotives.

Hagerstown & Frederick Railway Co., Frederick, Md., will purchase 2 high-speed interurban passenger cars and a pay-as-you-enter street car from the J. G. Brill Company, Philadelphia.

Illinois Central Railroad, which recently ordered 100 more (making a total of 1000) refrigerator cars from the American Car & Foundry Co., will also purchase 100 gondola cars.

Charleston Interurban Extension.

The Charleston Interurban Railroad Co., Charleston, W. Va., expects to extend the Kanawha Valley Traction Co. line as rapidly as possible to Montgomery, W. Va., 25 miles east of Charleston. This line is leased by the Charleston Interurban, which operates it. The line from South Charleston to St. Albans was built by the Charleston Traction Co., but was recently transferred to the Kanawha Valley Traction Co. Wm. E. Chilton is president of the Charleston Interurban; W. A. MacCorble, vice-president, and F. M. Staunton, secretary and treasurer.

Railroad Notes.

The Central of Georgia Railway has completed and put in operation its new yards at Macon. They are constructed on the "hump" plan and have 32 miles of tracks.

The Newbern-Ghent Street Railway Co. at Newbern, N. C., is preparing to change its motive power from a storage battery system to an overhead trolley system. Materials have been bought.

FOREIGN NEEDS

Machinery and equipment wanted abroad are mentioned in many letters received by the MANUFACTURERS' RECORD, which is so widely read in foreign countries that we are in constant receipt of many letters from all parts of the world. For the benefit of our subscribers seeking foreign trade we publish the following extracts from recent letters:

Leather for Greece.

Bensussan, Sides & Co., Salonique, Greece, write to the MANUFACTURERS' RECORD as follows:

"We have to place an order for 1000 bales of clean hides for shoe soles to weigh 7 to 8 kilos each, the leather to be of domestic or foreign origin. If of foreign origin, it could weigh from 6½ to 7 kilos. The leather to be well treated without being weighted; the heads and the flanks to be light, of a good clear color; prompt delivery to be made at Salonique, c. i. f.; no charge for packing, and the merchandise to be insured against war risks; payment to be made in cash immediately upon the arrival of the ship and an allowance of 3 per cent. to be taken into account for the bank financing the business. We will appreciate it very much if you will do the favor of engaging in our interest in such a way as you may think most appropriate some important American factories, and have them send us as promptly as possible samples, with prices of their goods, and we will take pleasure in sending them an order."

Iron and Steel Products.

Felice Bilgino, Via Oxanam 14, Milan, Italy, writes to the MANUFACTURERS' RECORD as follows:

"Your review came to hand, and I find in it the advertisements of many American firms engaged in business of interest to me. At this present moment I doubt whether it is expedient to address any of them, for the reason that they may have other people representing them in this country. In order to avoid unnecessary correspondence I give you an idea below of the various articles that are of interest to me, and I would appreciate it if you would get some people in these lines in com-

munication with me. Malleable iron plates for making joints, iron and steel pipes of different kinds, iron and steel beams, sheet iron, fish plates and similar appliances for railroads, iron axles and axles already mounted for locomotives. As references I give you the National Association of Manufacturers of New York."

Electrical Machinery, Boilers, Engines, Etc.

Aristide Peninos, Tarpon Springs, Fla., writes to the MANUFACTURERS RECORD as follows:

"I am in receipt of letters from friends in Athens, Greece, who wish to get into communication with manufacturers of electrical machines to supply current on an island in Greece, having two large towns and several smaller ones. They have a splendid waterfall producing 3000 horse-power, which can be harnessed and made to produce the necessary power to operate a plant to furnish the whole island with power and light. Further, they wish the names of concerns making flour mills and supplies, boilers, gasoline boats, gasoline engines, 50 horse-power. I am writing you to ask if you will kindly put me in touch with some of the best concerns you can recommend so that I may have them forward the information desired."

Wooden Pegs and Wrapping Paper.

Bensussan, Sides & Co., Salonique, Greece, write to the MANUFACTURERS RECORD as follows:

"We have heavy orders for wooden shoe pegs in packages of 200 grammes net, in sacks of 6 kilos net, and if possible in barrels of 80 to 100 kilos net. We would also like to get packing paper like the samples sent you under separate enclosure and upon which we have marked the sizes and weights which will find sale here. We will be obliged to you if you would engage the attention of suitable American manufacturers."

(Samples A, B, C and D on file in office of MANUFACTURERS RECORD.)

Naval Stores for Denmark.

Consulate of Denmark, New Orleans, La., writes to the MANUFACTURERS RECORD as follows:

"An importer in Denmark has requested this consulate to place him in correspondence with some respectable firm on this side of the water that is in position to quote prices on naval stores for export. As Denmark is neutral, Danish merchantmen are not molested nor inconvenienced by warships of the countries involved in the present war. Traffic and transportation between this country and Danish ports is carried on as usual."

New Series Trip for High Voltage Oil Switches

Low voltage current is usually employed to trip high voltage automatic oil switches on the occurrence of abnormal conditions against which the automatic features are intended to guard. Electrically-operated switches are usually tripped by direct current, and for tripping hand-operated switches alternating current is generally used. In many cases, however, neither low voltage direct current or alternating current is conveniently or cheaply available, and then automatic protection is secured by the aid of a high voltage series trip.

For this service the General Electric Co. of Schenectady, N. Y., has developed an arrangement representing considerable improvement on types of high voltage series tripping devices. The new features are: Accessibility of the working parts for inspection; cleaning or adjustment while in service without danger; calibration at the oil switch itself, and the use of a new type of solenoid, which consists of but a few simple and rugged parts that need practically no attention after installation.

The solenoid plunger is connected to the tripping mechanism of the oil switch by a wooden rod. Calibration, that is, change in current tripping values, is accomplished by a movable weight located near the operating mechanism of the switch at a considerable distance from the high voltage current.

This type of series trip is furnished for instantaneous or inverse time limit operation. Time delay is obtained by means of a dash pot mounted on the tripping mechanism at the switch.

MECHANICAL

Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

"Southland" Meter Box.

During 1914 a great many new water-works appliances are said to have been added to the line manufactured by the H. W. Clark Company of Mattoon, Ill., all of which are of original design, developed from 25 years' practical operating experience. Since enlarging its manufacturing facilities about two years ago, the factory now comprising 45,000 square feet of floor space, equipped with modern machinery and prepared to manufacture and care for a rapid increase, some 30 or 40 new models of meter boxes, improved iron collapsible forms, valve housing and valve boxes, service boxes, Clark repair lid, meter testers, leak indicator, service box and valve box finder, "Sonofone" and pipe locators, etc., have been added to the line of water-works equipment already developed by the company.

As an indication of the success of this company, it is timely to quote at this point part of a letter recently received from the H. W. Clark Company, which is as



"SOUTHLAND" METER BOX.

follows: "We are pleased to say that the Clark Company has enjoyed an increase of over 35 per cent. in its business over the preceding year, and we are indeed very optimistic of 1915."

In one of the accompanying illustrations is shown the "Southland" meter box, so named from its special adaptability to the South. The construction of the "Southland" is such as to give the maximum amount of room for meter, stop cock, etc., with the minimum amount of material and weight. Owing to its special construction, great strength is claimed to be secured. The box is made in cast iron, and in sheet iron of both black finish (specially dipped) and galvanized.

A "wonder lock" with all parts of solid bronze, non-corrosive and trouble-proof is provided with the box.



COMBINED COVER AND LOCK OF "SOUTHLAND" METER BOX.

The key for this lock serves as a handle with which to remove the cover, automatically locking the cover on removal, and the box cannot be unlocked without this special key.

A new catalogue "N," giving complete description of

Clark products, will be sent to interested persons upon request to either the home office of the H. W. Clark Company at Mattoon, Ill., or to its branch offices located in New York, Chicago and San Francisco.

Concrete Posts for Mail Boxes.

A novel but thoroughly practical use of concrete is in posts supporting mail boxes on rural free delivery routes. The concrete features consist of the post or support for the box. A simple post should be about 7 feet long. Planted at a depth of 3 feet, this would leave the box at convenient height for the delivery or extraction of mail. The form for molding the post is placed on the ground in horizontal position, with open side up, and filled with well-tamped concrete to the depth of about one inch. Then three-eighths-inch reinforcing rods are placed at either side, leaving about one inch space between each rod and the side of the form. The box is then filled to within one inch from the top and two more reinforcing rods are placed on the concrete. The form is then filled to the top and the concrete struck off. The rods may go straight from the bottom to the top of the post, as it will not be necessary to curve them outward at the bracket.

The form or mold may be made with one or more braces nailed across the upper or open side to prevent the sides from spreading when the concrete is tamped. The bracket effect at the top is obtained by inserting extra pieces of wood at the corners. If preferable, a post in the shape of a letter T may be made, eliminating the bracket feature. A perfectly plain post without projecting top would also answer the purpose.

To provide for fastening the mail box to the post, bore two or perhaps four holes through the board at the top of the form. Insert in these holes the bolts with the heads down, or inside the form. The bolts will be imbedded in the concrete when it is placed and when the form is removed the threaded ends of the bolts will project slightly above the top of the post. Holes cut in corresponding position in the bottom of the mail box will permit the bolts to pass through and the box will be secure when nuts are placed on the bolts.

Mix the concrete in the proportion of 1 part Portland cement, 2 parts sharp, clean sand and 4 parts crushed stone, ranging from one-half inch to one inch in size. Allow the concrete to remain in the forms for at least 24 hours. When the post is removed protect it from freezing, or if made in summer, from hot winds and sun. Wet it thoroughly for a week or ten days after removing it from the forms.

Concrete posts do not warp, decay or burn. When used for fencing they keep in better alignment than wooden posts. Concrete is now used for fenceposts, clothes poles, hitching-posts and gateposts. Concrete fenceposts have been made at an average cost of less than 25 cents each, notwithstanding the fact that all material was purchased, and even in well-timbered districts they are being substituted for wooden posts on account of their low first cost and everlasting qualities.

For Soap and Candles at Tampa.

Charles C. Ackrill of Tampa, Fla., writes to the MANUFACTURERS RECORD:

"I want to see West Tampa a city of smoke, a manufacturing city. We have no industries but the cigar industry, and I have in mind to organize and incorporate a company for the manufacture of soap, candles and matches. This is a great country for soap, and the value of domestic and foreign importations of this article runs into many thousands of dollars. The same applies to matches. Thousands of dollars' worth of safety matches are imported into this country and a good amount also in candles, as the Latin peoples here, of which there is a great population, use lots of candles for religious and other purposes. Therefore a soap and candle factory must yield splendid profits and give good returns and big dividends. In a city like this everyone will support the home industry and labor will be employed."

Charles W. Hotchkiss has been elected chairman of the board of the Virginian Railway and Raymond Du Puy has been elected president. Mr. Du Puy will continue to be chief operating officer.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Ala., Jasper.—Walker county will construct 4 steel bridges across Black Warrior River at Cordova, Sipsey Fork, Mulberry and Town Creeks; County Commrs., Chas. M. Sartain, Chrmn., receive bids until March 15. (See Machinery Wanted.)

Ark., Little Rock.—City Council let contract N. Peay Construction Co. of Little Rock at \$8954 to complete 3d-St. viaduct.

Fla., Jacksonville.—Duval county will repair Trout Creek bridge at Panama, on Fernandina Rd.; County Commrs., E. A. Ricker, Chrmn., invite bids until Mch. 8; lately noted. (See Machinery Wanted.)

N. C., Danbury.—Stokes County Commrs. let contract Virginia Bridge & Iron Co., Roanoke, Va., at \$5423 to construct lately noted 280-ft. bridge across Buffalo Creek at Gernantown.

N. C., Hilton.—Wilmington Bridge Co. has War Dept.'s approval of plans for draw-bridge over Northeast Cape Fear River at Hilton; lift type, affording clear opening of 35 ft. between fenders; estimated cost, \$60,000; Vaughn Construction Co., Shawsville, Va., has contract for substructure consisting of piers and fenders, and Virginia Bridge & Iron Co., Roanoke, Va., for superstructure, consisting of steel lift and approach spans. (Previously noted.)

Okla., Oklahoma City.—Oklahoma county will construct bridge; 10-ft. and 15-ft. concrete arch; M. Cornelius, County Clerk, invites bids until Mch. 8. (See Machinery Wanted.)

Tenn., Knoxville.—Knox County Road Com. let contract to J. U. Burkhart to construct bridge on Oldham St., near Oakwood.

Tex., Vernon.—Wilbarger County Commrs. let contract Austin Bros. of Dallas to construct pile bridge 1500 ft. long over Pease River.

Va., Bland.—Bland county defeated previously-noted \$30,000 for road and bridge improvements.

Va., Staunton.—Valley Turnpike Co. will construct concrete bridges to replace wooden bridges and culverts.

Va., Suffolk.—City authorities and Nansemond County Commrs. contemplate constructing bridge over Nansemond River; iron; cost \$9000.

CANNING AND PACKING PLANTS

Fla., Live Oak.—W. E. Quarterman and others will organize company with \$10,000 capital stock to establish cannery.

Fla., Palmetto.—Manatee Fruit Co. will establish fruit-packing plant; W. L. Preston, Pres., Secy. and Treas.; J. H. Preston, V.-P.; F. D. Waite, Mgr.; open bids March 15 to erect one 40x100 and one 80x168-ft. mill-construction buildings; install two 30 H. P. engines, washers, polishers, dryers, rolls, graders and sizing machinery; open machinery bids March 15; daily capacity, 6 cars oranges and grapefruit. (See Machinery Wanted.)

Ga., Augusta.—Armour & Co. (main office, Chicago, Ill.) let contract Birmingham (Ala.) company to erect building; fireproof; 3 stories; 60x120 ft.; reinforced concrete and steel; install beef cooler lined with white enamel, soaking vats, smokehouses, ham boilers and automatic refrigerating plant on thermostat; plans by J. F. Flaherty; J. Power to supervise construction.

Ga., Elberton.—Elberton Packing Co. (R. A. Almand, F. K. Eaves and C. W. Parker) will establish small slaughtering and packing plant; has two 18x24-ft. buildings.

Md., Baltimore.—Wm. Schludenberg & Son, 4th and Bank Sts., are having plans prepared by C. B. Comstock, Philadelphia, Pa., for meat storage-house on Eastern Ave.; reported will be 44x68 ft.; 3 stories; reinforced concrete; cost about \$40,000. (Lately noted.)

Va., Remington.—R. A. Fifield, Embrey Bldg., is interested in plan to establish cannery; has not purchased equipment. (See Machinery Wanted.)

CLAYWORKING PLANTS

Mo., Kansas City.—H. J. Zeller purchased Flanagan Bros. Mfg. Co.'s brick yards at 1st St. and Michigan Ave.; reported Flanagan-Zeller Brick & Mfg. Co. organized to operate plant on increased scale.

Tex., Austin.—Bricks.—G. E. Richmond, 1407 Congress Ave., interested in plan to establish brick works of 20,000 to 25,000 daily capacity; has not purchased machinery; equipment to include hydraulic press, power press, 100 H. P. locomotive type boiler, 75 H. P. engine, hammer pulverizing mill, 2-ton platform scale, etc. (See Machinery Wanted.)

Tex., Mexia.—Brick and Tile.—Commercial Club, W. E. McKinney, Secy., is promoting establishment of company to build plant for manufacture of hollow brick and tile.

W. Va., Guyandotte, Ind. Station Huntington.—Bricks.—Hans Watts is reported as interested in establishment of plant to manufacture paving brick.

W. Va., Martinsburg.—Bricks, Vitriified Fireproofing, etc.—Municipal Shale Brick & Block Co., capital stock \$250,000, inctpd. by F. Vernon Aler and Allen B. Noll of Martinsburg, M. J. Beach and Samuel A. Vervalen of Baltimore, Md.; Henry P. and L. Perry West of Washington, D. C.; J. W. Candler of Cleveland, O., and Henry W. Geiswind of Philadelphia, Pa.; proposes immediate expenditure of \$150,000 to build plant with daily capacity 60,000 paving blocks, to be increased to 80,000 by midsummer; will expend \$100,000 to add departments for manufacturing bricks, sewer pipe, vitriified fireproofing, etc.; steam power installation, using 2 carloads coal daily, to drive plant; has 90-acre site to develop for plant. (Lately noted to be incorporated by Baltimore and Pennsylvania manufacturers, etc.)

COAL MINES AND COKE OVENS

Ky., Burchfield.—Puckett's Creek Coal Co., Middlesboro, Ky. (lately noted inctpd., capital \$5000), organized; Jno. Howard, Pres., Treas. and Mgr.; U. G. Brummett, Secy.; develop 1700 acres; daily capacity, 200 tons; install 3 electric motors, dynamo, engine and steam boiler; cost of machinery, \$30,000; C. P. Davidson, Constr. Engr., Middlesboro.

Ky., Douglas.—Douglas Coal Mining Co., capital \$3000, inctpd. by J. L. Johnson, H. C. Nunley and Annie Jones.

Ky., Emma.—Floyd Mining Co., capital \$10,000, inctpd.; Ben E. Tate, Pres.; Henry L. Coe, Secy., Treas. and Mgr.; develop 1000 acres; daily capacity 100 tons; needs equipment. (See Machinery Wanted.)

Ky., Hazard.—Perry County Block Coal Co., capital \$30,000 inctpd. by R. L. Peters, C. L. Winfrey and W. E. Price.

W. Va., Chauncey.—Maher-Pursglove Mining Co., 1242 Rockefeller Bldg., Cleveland, O., states is daily placing orders for machinery for previously-noted developments; 1000 acres; daily capacity 1300 tons coal; Thos. K. Maher, Pres.; Thos. W. Pursglove, V.-P. and Secy.; Jos. Pursglove, Treas.; Samuel Pursglove, Mgr., all of Cleveland.

W. Va., Marpleton.—Marpleton Coal Co., capital \$200,000, inctpd. by L. O. Knipp of Philadelphia, Pa.; Theo. Switzer, Jos. Fred and Theodore Bittenbender, all of Plymouth, Pa.

COTTON COMPRESSES AND GINS

Ala., Demopolis.—John C. Webb & Sons let contract to rebuild compress lately noted burned at estimated loss of \$20,000.

N. C., Warsaw.—D. L. Woodward will rebuild cotton gin lately noted burned; plans not decided; needs machinery. (See Machinery Wanted.)

COTTONSEED-OIL MILLS

Ga., Vienna.—Empire Cotton Oil Co., Atlanta, Ga., will rebuild lately-noted factory by day labor, superintended by company's foreman.

DRAINAGE SYSTEMS

Fla., Fort Pierce.—Trustees Internal Improvement Fund let contract Furst-Clark Construction Co. (main office, 1515 Fidelity Bldg., Baltimore, Md.) to dredge St. Lucie Canal from northern rim of Lake Okeechobee to St. Lucie River, 24½ mi.; canal will be 200 ft. wide at bottom and 260 ft. wide on water line, with depth below water line of 12 ft.; proposed to build control dam near eastern end of canal; dam to be of concrete on pile foundation, 350 ft. long and 13 ft. high above foundation; dam be built with view later to act on recommendation of Isham Randolph, Engr., Jacksonville and Chicago, that hydro-electric development be undertaken generating 5000 horse-power; State does not plan installing hydro-electric plant until some time in future. (Lately noted.)

Fla., Titusville.—Upper St. Johns Drainage Dist. Suprs. have made permanent the previous conditional engagement of Isham Randolph & Co. of Chicago, Ill., and Jacksonville, Fla., as chief engineers; these engi-

neers have begun work on surveys, plans and specifications for reclamation of 265,000 acres; Suprs. also levied tax of 17 cents per acre to cover preliminary expenses, appointed Horace W. Ewing of Melbourne as treasurer of Dist., and made Cocoa, Brevard county, official headquarters; Geo. B. Hills is Mgr. Jacksonville office.

La., Opelousas.—Commrs. Bayou Beauf and Waxia Drainage Dist. engaged W. B. Robert, Engr., Opelousas, to make survey of district; drain about 60,000 acres; D. W. Sylvester, Pres. of Board.

Mo., Cape Girardeau.—Little River Drainage Dist., Jno. H. Himmelberger, Pres. Board of Supervisors, 406 Himmelberger-Harrison Bldg., let contract Hoosier Land & Investment Co., Sikeston, Mo., at .0619 cents per cu. yd. for excavation and \$30 per acre for clearing, contracts 11 and 17; estimated quantities are: Contract 11, ditch 1; 3,334,753 cu. yds. excavation; clearing 638.15 acres; contract 17, ditches 1 and 51; 1477 mi.; 100 cu. yds.; totals (both contracts), 3090 mi.; estimated cu. yds., 6,591,911; clearing, 1325 acres; life of contracts, 36 mos.; required monthly, 219,728 cu. yds.; Wm. A. O'Brien, Ch. Engr. (Bids lately noted.)

Mo., Elsberry.—Elsberry Drainage Dist. let contract Wm. J. Callahan Construction Co., Elsberry, at \$13,490 to construct 100,000 cu. yds. earthwork. (Call for bids lately noted.)

Tex., Edna.—Jackson County Drainage District No. 5 will construct canals, drains, ditches and levees, straighten and clean watercourses, etc.; 102 mi. ditches, yardage about 627,390; area of district 30,389 acres; Drainage Commrs., J. W. De Witt, Chrmn., receives bids until Mch. 9; Engr., W. C. Youngs, Edna; J. W. Bagby, County Judge. (See Machinery Wanted.)

ELECTRIC PLANTS

Ala., Piedmont.—City contemplates installing motors, boiler and generator; furnish day current; J. P. Hastam, Jr., Mgr.

Ark., Blytheville.—Missouri & Southeastern Utilities Co., capital stock \$450,000, inctpd. by W. W. Hollipeter, P. E. Cooley and A. G. Little; will build plants producing electricity, gas, heat and power; W. W. Hollipeter, Pres.; A. G. Little, V.-P.; P. E. Cooley, Secy.

Ala., Guntersville.—City contemplates installation of electric lighting system; ready to receive propositions for plant; D. Isbell, Mayor. (See Machinery Wanted.)

Ark., Cabot.—Cabot Light & Power Co. organized; will build electric-light plant; M. Young, Pres.; D. Jenkins, V.-P.; J. H. Hagan, Secy.

Ark., Corning.—City voted to grant franchise to G. A. Booser for electric-light plant.

Fla., Bradentown.—City will erect brick power plant; H. W. Tracy, Commr. of Public Works, receives bids until Feb. 26; plans and specifications on file with City Engr. and obtainable for \$2.

Ky., Louisville.—Jefferson County Electric Co., capital stock \$5000, inctpd.; Hoke Smith, Pres.; John F. Boyson, V.-P.; Jos. A. Jokoby, Secy.-Treas.

Ky., Smiths Grove.—Town Board contracted with Gill Edwards of Pembroke, Ky., to install and operate electric-light plant.

La., Bastrop.—City voted \$16,000 bonds for electric-light plant and water-works improvements. Address The Mayor.

Mo., Carthage.—Board of Public Works will purchase and install 40 or 50 H. P. 60-cycle 2-phase 220-volt induction motor, deep-well pump capable of delivering about 200 gals. per min. and two 30 K. W. transformers; A. P. Knowles, Supt.

Mo., Deepwater.—City engaged J. P. Davis of Windsor, Mo., as engineer in charge of constructing electric-light system; bonds voted. (Lately noted.)

Mo., Elsberry.—City contemplates purchasing and installing 25 K. W. alternating-current generator and engine directly connected; W. B. Ellis, Secy.

Mo., Fair Play.—J. W. Lowery of Dunnegan, Mo., purchased local electric-light plant and will complete new plant.

Mo., Kansas City.—St. Joseph's Hospital power plant plans will be completed in 3 or more weeks; Henrici, Kent & Lowry, Engrs., Reserve Bank Bldg.; Archts., Wilder &

Wight, First National Bank Bldg., all of Kansas City. (Lately noted.)

N. C., Gibson.—City, J. E. Doster, Mayor, will install electric-light plant; 200 60-watt and 20 112-watt lights; equipment needed; cost of installing lights, \$600. (See Machinery Wanted.)

Okla., Bartlesville.—Bartlesville Interurban Ry. Co. will enlarge and improve power plant at cost of \$5000; erect addition to present brick building; installing condenser costing \$3500.

S. C., Anderson.—Southern Power Co. (main office, Charlotte, N. C.), H. A. Orr, Mgr. Anderson division, will construct 100,000-volt double-circuit steel-tower transmission line from Belton to Anderson, to be link in line from Seneca via Anderson to Greenwood; estimated cost \$75,000 to \$100,000; install 4000 H. P. transformer, necessary switches, etc., in Tribble-St. station; for present transmission line from Belton to Anderson will be operated at 40,000 volts, being connected at Belton with pole line from Greenville to Greenwood; total length of tower line from Seneca to Greenwood will be 65 mi., and other links will be constructed after that from Belton to Anderson has been completed.

S. C., Estill.—City receives bids Feb. 26 on material for electric-light improvements; J. B. McCrary Co., Engr., Atlanta, Ga. (See Water-works and Machinery Wanted.)

S. C., Union.—City will erect 6600-volt 3-phase transmission line; R. A. Easterling, Supt. Electric Light and Water Works, in charge of construction. (See Water-works.)

Tenn., Waverly.—City Light & Water Co., capital stock \$4000, inceptd. by H. W. Hooper, J. D. Lutten, J. F. Daniel and others.

Tex., Thornton.—City Council granted franchise for electric-light plant. Address The Mayor.

Va., Clarksville.—City, R. H. Easley, Mayor, will erect and install power plant and electric-lighting system; bids until Feb. 2; previously noted. (See Machinery Wanted.)

Va., Dayton.—City, J. L. Fuqua, Mayor, voted \$24,500 for electric-light plant, sewer and water-works construction. (Previously noted.)

Va., South Boston.—South Boston Electric Light & Power Co. will construct by company force the improvements lately noted to be made; Jno. Andrew, Boston, Mass., in charge.

Va., Stuart.—E. H. Hoge of Gate City, Va., is reported as considering construction of electric-light plant.

Va., Stuart.—I. C. DeHaf of Woolwine, Va., is reported as considering construction of electric-light plant.

FLOUR, FEED AND MEAL MILLS

Ga., Perry.—W. L. Henry of Perry and J. W. Harrison of Montezuma, Ga., are reported to build flour and grist mill; water-power.

Ky., Owensboro.—Anglo-American Mill Co. increased capital from \$200,000 to \$260,000.

N. C., Asheville.—American Feed Milling Co. let contract for machinery for lately-noted cornmeal plant; daily capacity, 1000 bu.; has building; W. C. Brown, Pres.; V. K. Chambers, V.-P.; O. P. Lotspeich, Secy., Treas. and Mgr.

N. C., Sanford.—J. B. Robeson contemplates building flour mill.

S. C., Anderson.—Carolinas Grain & Elevator Co. will be organized by Edward H. Richards of Willow City, S. D., to build mill; daily capacity, 40,000 bu.; use hydro-electric power.

S. C., Spartanburg.—Palmetto Roller Mills let contract P. J. O. Smith & Son of Spartanburg at about \$8000 to erect main building for flour mill; plant will have provision to store 20,000 bu. wheat and daily capacity of 150 bbls. flour.

W. Va., Beilington.—G. H. Proffitt will build feed mill; later may install buckwheat machinery.

W. Va., Buckhannon.—I. A. Stainaker contemplates building feed mill and elevator.

W. Va., Huntington.—West Virginia Feed & Produce Co., capital \$5000, inceptd. by J. E. Duncan, P. O. Duncan, J. O. Bellenger and others.

W. Va., Kenova.—J. G. Lambert is organizing company to build flour mill.

FOUNDRY AND MACHINE PLANTS

Fla., Valrico.—Blacksmith Shop.—B. S. Stephens of Bloomingdale (P. O. at Sydney, Fla.) is reported to build blacksmith shop.

Ky., Paducah.—Textile Mill Machinery.—Southern Textile Machinery Co., lately noted

to enlarge plant, will lease building being constructed by F. W. Katterjohn, owner, and install milling machines, boring machines, punch presses, etc.

W. Va., Wheeling.—Iron Works.—J. E. Moss Iron Works will erect addition to building on 28th St.

GAS AND OIL ENTERPRISES

Fla., Miami.—Gas Plant.—Miami Gas Co. will extend mains through various suburbs, including Buena Vista, Coconut Grove, Point View, etc., and improvements to plant, including another container, oil tank and additional machinery; estimated cost of extensions \$100,000 and of plant improvements \$100,000, making total expenditure of \$200,000.

Okla., Comanche.—Winner Oil & Gas Co., capital stock \$16,000, inceptd. by C. S. Wade, Wm. Binder, E. M. Ralls and H. E. Lockett.

Okla., Sapulpa.—Forbus Oil & Gas Co., capital stock \$25,000, inceptd. by C. Janssens, C. E. Watson and R. F. Watson, all of Kiefer, Okla.

Okla., Tulsa.—Central Oklahoma Petroleum Co., capital stock \$10,000, inceptd. by C. B. LaFant, Phil Melvin and Ira W. Gibbens.

Okla., Tulsa.—Stonckey Petroleum Co., capital \$12,000, inceptd. by J. Paul Getty and Geo. F. Getty of Tulsa and C. E. Johnson of Oklahoma City.

Okla., Tulsa.—Roma Oil Co., capital stock \$5000, inceptd. by Carl D. Smith, W. A. Gainer and F. O. Brinkley.

Tenn., Chattanooga.—Chattanooga Gas Co. submitted proposition to Missionary Ridge Business League to extend gas system on ridge.

Tex., Houston.—Farmers' Petroleum Co. increased capital stock from \$30,000 to \$100,000.

Tex., League City.—Tenstrike Oil Co., capital stock \$4000, inceptd. by B. C. Perkins, Aug. Schenk and J. E. Labuzan, Sr.

ICE AND COLD-STORAGE PLANTS

Ark., McGehee.—Moreley & Son let contract to build ice plant; capacity, 30 tons; crude oil for fuel; estimated cost, \$30,000; Nichols-Brown Well Co. is sinking 8-in. well on site.

Okla., Custer.—City votes March 4 on \$10,000 bonds to install 10-ton ice plant in connection with electric-light and water plant; H. H. Hatchet, Supt.

Tenn., Memphis.—People's Ice & Coal Co., lately noted inceptd., capital stock \$25,000, by A. A. Bell (Pres. and Mgr.) and others, will deal in ice and coal-carload lots—in territory contiguous to Memphis; will not manufacture.

Tenn., Monteagle.—Kennedy Bros. plan to build two 20x40-ft. storage-rooms to increase capacity of plant.

Tex., Orange.—Orange Light & Water Co. will build cold-storage warehouse costing \$6000.

IRRIGATION SYSTEMS

Tex., Barstow.—Ward County Irrigation Dist. No. 1 let contract Baker Mfg. Co., Sweetwater, Tex., to construct reservoir; contractor takes \$340,000 bonds. (Work previously noted and described.)

LAND DEVELOPMENTS

Ala., Mobile.—Mobile Home Gardens Co. inceptd.; Very Rev. G. C. Tucker, Pres.; R. O. Harris, Mrs. Belle Daly and Aubrey Boyles, V.-Ps.; Rabbi A. G. Moses, Secy.; M. J. McDermott, Treas.

Fla., Bradentown.—City purchased 100 acres for development as golf links. Address The Mayor.

Fla., Miami.—Tatum Bros. Real Estate & Investment Co. will develop 16 acres as park.

Fla., Miami.—Miami Cemetery Co., capital stock \$50,000, inceptd.; John C. Gramling, Pres.; G. A. McKinnon, V.-P.; John B. Reilly, Secy.-Treas.

Fla., Miami.—Chas. G. McCutchen of Jackson, Mich., is reported to have purchased north half of Belle Isle, comprising about 17 acres land; will continue improvements planned, including construction of roadways.

Ky., Hazard.—Gregory Branch Property Co., capital \$10,000, inceptd. by Wm. Jones, K. F. Johnson and S. A. D. Jones.

Ky., Louisville.—Santa Fe Land Co., capital stock \$5000, inceptd. by R. S. Herms, C. M. Samuels and E. D. Noe.

La., Lake Charles.—Prairie Farm Lands Co. (lately noted inceptd., capital stock \$200,000) has following officers: Pres., S. T. Woodring; V.-Ps., Geo. T. Lock and W. P. Weber; Secy., B. M. Talbot; Treas., S. A. Knapp; will develop 40,000 acres for farming lands.

N. C., Charlotte.—Geo. W. Watts of Durham, Gilbert White, W. S. Lee and others of Charlotte will purchase and develop about 70 acres land as suburban residential section; improvements to include electric-light system, water-works, paved streets and sidewalks, etc.

N. C., Wrightsville Beach. P. O. at Wilmington.—North Carolina Beach Development Co. of "The Breakers," Station No. 1, Wrightsville Beach, inceptd. with \$100,000 capital stock by J. E. Clayton, Milton Calder and W. C. Curtis.

Va., Glenrock (not a P. O.).—Norfolk & Portsmouth Construction & Development Co., 355 Monticello Arcade Bldg., Norfolk, organized with A. M. Guy, Pres.; G. F. Brown, V.-P.; A. M. Campbell, Secy.-Treas.; capital stock \$100,000; develop about 70 acres at Glenrock, Princess Anne county, as industrial subdivision; plans include building of homes for manufacturer's employees, establishment of recreation park, etc. (Lately noted.)

Va., Shipman.—Red Apple Orchard Corp. increased maximum capital stock from \$50,000 to \$100,000.

W. VA. LUMBER MANUFACTURING

Ark., Nashville.—Allen Lumber & Box Co., capital \$120,000, inceptd. by J. H. Allen and W. J. Lockwood; acquired properties of Grayson-Nashville Lumber Co., comprising 16,000 acres in Little River, Hempstead and Sevier counties; will build mill. (Mr. Allen lately noted to build hardwood mill, etc.)

Ga., Savannah.—Timber Products Co. (lately noted inceptd., capital stock \$100,000) organized with A. W. Corkins, Pres. and Treas.; F. K. Webb, V.-P.; J. T. McAndrews, Secy.; has plant; manufacture hardwood timber; daily capacity 50,000 ft.

Miss., Meridian.—Rex Planing Mill Co., C. L. Gray, Pres., will rebuild plant; details not decided. (Main building noted burned.)

N. C., Cove City.—Cove City Lumber Co., capital stock \$150,000, inceptd. by R. Boyte, C. Howell, M. B. Adams, Ed. Barthell, A. S. Britt and Ben Feldman, all of Nashville, Tenn.; reported to develop 7000 acres timber land in Craven and Jones counties.

Tenn., Bristol.—H. P. Wyman Lumber Co. (lately noted) will operate plant at Johnsons Mill, Lee county, Va. (See Va., Johnsons Mill.)

Tenn., Memphis.—Penrod, Jurden & McCowen Co., capital stock \$350,000, inceptd. by J. N. Penrod, R. L. Jurden, E. R. Morrison and others.

Va., Johnsons Mill.—H. P. Wyman Lumber Co., main office, Bristol, Va., will construct sawmill and yard docks, railroad, etc.; all material purchased; manufacture hardwood lumber; about 15,000 ft. daily capacity; H. P. Wyman, Pres. and Treas.; E. M. Wyman, V.-P.; Jas. G. Wyman, Secy.; all of Bristol, Tenn.

Va., Marion.—Carter-Thomas Co., capital stock \$20,000, inceptd.; H. Carter, Pres.; J. E. Thomas, V.-P.; J. W. Thomas, Secy.-Treas.

Va., Roanoke.—Massey-Walker Lumber Co., Holiday and Walnut Sts., will build mill; main building 85x30 ft.; install 6-ft. band-saw mill operated by electricity; cut hardwood and cedar boards; daily capacity 25,000 ft. hardwood or 10,000 ft. cedar; principal product to be red cedar boards such as are used for cedar chests; also manufacture cedar oil and saw cedar slabs into small pieces for sale to makers of cedar novelties; plant estimated to use 4 cars hardwood and 2 cars cedar daily; will have 2 spur tracks, one from Virginian, other from Norfolk & Western.

Va., Wise.—Norton Planing Mill Co., capital stock \$50,000, inceptd.; W. H. Roberts, Pres.; W. E. Miller, Secy.; R. R. Roberts, Gen. Mgr.

METAL-WORKING PLANTS

Md., Baltimore.—Tin Cans.—Atlantic Can Co., Allicanna and Chester Sts., has plans by Wm. O. Sparklin, Archt., and G. S. Childs, Assoc. Archt., 592 Law Bldg., Baltimore, for and let contract to Slinger-Pentz Co., 600 Equitable Bldg., Baltimore, to erect factory and warehouse building at Boston and Chester Sts.; 5 stories; 162x60 ft.; brick and frame; slag roof; electric light. (Lately noted.)

Mo., Kansas City.—Steel Barrel.—Cleveland Steel Barrel Co., Cleveland, O., is reported to establish branch factory to manufacture steel barrels for shipping oil.

Okla., Vinita.—Brass.—Vinita Brass Works, capital \$50,000, inceptd. by J. F. Watkins, J. M. Jones and L. N. Ditto.

Tex., Fort Worth.—Weather Strips.—National Metal Weather Strip Co., capital stock

\$1000, inceptd. by R. J. Pence, W. F. Fry and E. A. Jackson.

Tex., Houston.—Clothespins.—Ingersoll Patent Clothespin Co., capital stock \$15,000, inceptd. by C. J. Ingersoll (1804 Terry St.), Hal W. Tucker and J. J. Schmidt; will establish plant to manufacture steel-wire clothespins; ordered machinery.

Va., Bristol.—Ornamental Iron and Wire Work.—Bristol Iron & Wire Works, capital stock \$3000, inceptd.; J. G. Tilley, Pres.; P. A. Reimann, Secy. and Mgr.; H. L. Wilson, Treas.; manufactures ornamental iron and wire work; plant equipped.

MINING

Ala., Mobile.—Mobile Mining & Milling Co., capital stock \$3000, inceptd.; G. H. Howze, Pres., Bayard, N. M.; R. A. Douville, Secy.-Treas., Mobile.

Ark., Murfreesboro.—Kaolin and Fuller's Earth.—Adams Kaolin & Fuller's Earth Co., capital \$7500, organized by C. W. Adams and others; will develop 160 acres land.

Ark., Rush.—Fuller-Shepherd Mining Co., capital stock \$10,000, inceptd. by J. T. Fuller, J. C. Shepherd and P. T. Glass.

Ky., Emma.—Floyd Mining Co., lately noted inceptd., will operate coal mine. (See Coal Mines and Coke Ovens.)

Ky., Middlesboro.—Stone and Lime.—Callison-Price Stone & Lime Co., capital stock \$15,000, inceptd. by M. S. Callison, R. N. Price and W. R. Pool; operate stone quarry on Virginia Pike.

La., Woodworth.—Gravel.—Rapides Gravel Co., Geo. K. Force, Mgr., Alexandria, La., will develop large gravel deposit near Woodworth, and desires to place contract with steam-shovel contractor. (See Machinery Wanted.)

Md., Hancock.—Sand.—Round Top Glass Sand Co., 109 W. Washington St., Hagerstown, Md., organized with Wm. P. Lane, Pres.; F. W. Bridges, V.-P.; Levin Stonebraker, Secy.; J. C. Lane 2d, Treas. and Mgr., all of Hagerstown; will develop 187 acres; daily capacity 250 tons sand; now receiving bids for machinery. (Lately noted to produce glass, engine, building and concrete sand, operating mine by hydraulic system and to install pump having capacity 500 gals. water per min. at Potomac River to force water to reservoir 150 ft. above sand mine.)

Md., Havre de Grace.—Rock.—Maryland Trap Rock Co., capital \$50,000, inceptd. by E. M. Good of Havre de Grace, J. M. Frere and G. Shearer, both of Wilmington, Del.

Mo., Joplin.—Zinc.—J. L. and Jas. H. Coesir leased portion of Empire Zinc Co.'s land and will build sludge mill.

Mo., Sarcoxie.—Lead and Zinc.—Lower Level Mining Co. (lately noted inceptd., capital stock \$2600) develops 40 acres; daily output about 10 tons blende; adding 6 (Arbutnot) sludge tables and other sludge equipment; J. W. Boyd, Pres.; H. A. Lowe, V.-P.; S. Tamblin, Secy.-Treas.

Okla., Tulsa.—Lead.—Woodbine Lead Co., capital stock \$50,000, inceptd. by E. S. Hofstra, Mrs. E. C. Hofstra and C. S. Rike.

Va., Lynchburg.—Stone.—Lone Jack Stone Co. contemplates installation of sluicing plant at quarry, 5 mi. from city. (See Machinery Wanted.)

Va., Richmond.—Granite.—Virginia Granite Corp., capital stock \$100,000, chartered; Frank H. Hunter, Pres., Middletown, Tenn.; W. G. Kinney, Secy.-Treas., Richmond.

Va., Salem.—Kesler Milling Co., capital stock \$10,000, inceptd.; will continue mill of O. D. Kesler and W. L. Oakes at Kesler's Mill Station; O. D. Kesler, Pres.; W. L. Oakes, Secy.-Treas.

MISCELLANEOUS CONSTRUCTION

D. C., Washington.—Concrete Wall.—U. S. Office of Public Buildings and Grounds, Col. Wm. W. Hatts in charge, receives bids until Mar. 3 to erect concrete retaining wall at Meridian Hill Park, 16th and W Sts.; 150 ft. by average 8 ft. high by average thickness 3 ft. base, 1½ ft. top; reinforcing steel to allow for contraction; cost about \$21,000.

Fla., Manatee.—Seawall and Boulevard.—City will construct seawall and boulevard along water-front; secured permit from War Dept. Address The Mayor.

Kentucky.—Lockgates.—Government let contract Penn Bridge Co., Beaver Falls, Pa., at \$28,341 to furnish and erect lockgates for Dam No. 14, Ohio River.

Ky., Maysville.—Lock and Dam.—Government let contract Bates & Rogers Construction Co. of Chicago at \$972,544 to construct

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lock and dam No. 33, Ohio River; H. Jervey, Lieut.-Col., Engrs., U. S. Engr. Office, Cincinnati, O. (Lately noted.)

Md., Baltimore—Swimming-pool.—City will construct swimming-pool at Clifton Park; concrete; 315x570 ft., 6-6-10 acres; graded from 0 to 8 ft.; grade from 0 to 3½ ft., 4 per cent.; from 3½ to 4 ft., ½ per cent.; from 4 to 8 ft., 10 per cent.; about 2500 cu. yds. concrete; pool to be lighted by high efficiency electric lamps; cost about \$30,000; Frank C. Gross, Engr., Park Com., in charge; plans ready March 3 or 10; bids due one week after plans are issued. (Lately noted.)

Md., Baltimore—Bulkhead, Dredging, etc.—Western Maryland R. R., Continental Trust Bldg., let contract Sanford & Brooks Co., Commerce and Water Sts., Baltimore, for 300,000 yds. dredging, 1124 ft. concrete bulkhead, timber retaining walls, 375 and 177 ft.; James Stewart & Co., Inc., Westminster Bldg., Chicago, let contract Sanford & Brooks Co. for 11,000 yds. grading, driving 700 piles. This work in connection with \$650,000 grain elevator for Western Maryland. (See Miscellaneous Enterprises.)

Mo., Kansas City—Flagpole.—City let contract John Simons Co., New York, for lately noted iron flagpole; 200 ft. high, without wires; cost about \$5000.

S. C., Charleston—Dredging.—Government will dredge Ashley River; bids until Mch. 19; G. A. Youngberg, Maj., Engrs., U. S. Engr. office. (See Machinery Wanted.)

MISCELLANEOUS ENTERPRISES

Ala., Halston—Cattle Ranch.—Alabama Cattle Co., Wm. S. Moughon, Prest., 2209 First Ave., Birmingham, Ala. (lately noted inceptd., capital stock \$10,000), will build barns, sheds, fireproof silos, etc.

Fla., Winterhaven—Laundry.—Winterhaven Steam Laundry Co. will erect laundry; 30x80 ft.; separate power-house; let contract Seymour-Craig Co. for cement work and A. A. Dugger for material.

Ky., Lexington—Dry Cleaning.—Applegate Co., capital stock \$5000, inceptd. by C. C. Applegate, John Payne and Jos. Henry; succeeds Electric Dry Cleaning Co.

Ky., Newport—Industrial Plant.—Newport Business Men's Club, W. C. Botts, Prest., is interested in plan to organize stock company to erect fireproof concrete building for light manufacturing; cost \$40,000.

Md., Baltimore—Grain Elevator.—Western Maryland R. R., Continental Trust Bldg., adopted final plans for grain elevator at Port Covington terminal, near Baltimore; contract lately noted let to Jas. Stewart & Co., Inc., Westminster Bldg., Chicago; double building, 185x128 ft. and 72x62 ft.; 7 stories; 190 ft. high; ships to dock and load from either or both buildings; reinforced concrete fireproof construction throughout, costing about \$500,000; elevating, conveying, cleaning, drying and electrical machinery costing about \$150,000; elevator and storage-house capacity 900,000 bus.; receive 30,000 bus. and discharge 45,000 bus. grain per hour; Stewart & Co. now receiving bids on machinery mentioned; Archt.-Engr., Max Toltz of Toltz Engineering Co., Pioneer Bldg., St. Paul, Minn.; Construction Engr., M. C. Byers of Western Maryland R. R.; Stewart & Co. let contract Sanford & Brooks Co., Commerce and Water Sts., Baltimore, for driving piles and grading; 700 piles, 42 to 45 ft. by 7 to 14 in.; about 11,000 yds. grading for elevator, transformer and boiler-houses. Western Maryland let contract Sanford & Brooks Co. for dredging, bulkhead and fill work; 300,000 yds. dredging; concrete bulkhead, 1124 ft.; timber retaining walls, 177 and 375 ft. (See Machinery Wanted.)

Md., Baltimore—Stockyards.—Union Stockyards Co. increased capital stock from \$800,000 to \$1,000,000.

Miss., Woodland—Creosote Plant.—J. L. Ricks and others contemplate establishment of small plant for creosoting fence posts. (See Machinery Wanted.)

Mo., Jefferson City—Printing.—Capital News Printing Co., capital \$7888, inceptd. by Chas. H. Buchanan, Mord McBride and Edgar Hestand.

Mo., Kansas City—Heating.—Arthur B. Mueller Heating Co., capital \$2000, inceptd. by W. R. Robertson, Geo. E. Meuthbach and Arthur B. Mueller.

Okla., Strong City—Publishing.—Herald Publishing Co., capital stock \$3000, inceptd. by G. W. Rutton and G. M. Crossland of Strong City, and Geo. G. Hamilton of Oklahoma City.

Mo., St. Louis—Dairy.—A. J. Jacobs is organizing company with \$25,000 capital to establish dairy farm. (See Dwellings under Buildings Proposed.)

Okla., Tulsa—Spring Water.—Oklahoma Spring Water Co., capital \$10,000, inceptd. by L. L. Hutchinson, G. C. Stebbins and E. E. Stafford.

Okla., Tulsa—Printing.—Boatwright Printing Co., capital stock \$3000, inceptd. by B. G. Boatwright, Julian Reid Boatwright and C. C. Ball.

S. C., Charleston—Engineering.—General Engineering & Contracting Co. inceptd.; W. B. Chisolm, Jr., Prest.-Treas.; V. B. Chisolm, Secy.

S. C., Florence—Hardware.—McCown Hardware Co., capital \$5000, inceptd. by J. R. McCown and S. J. McCown.

Tenn., Knoxville—Plumbing.—B. J. Long Plumbing Co., capital stock \$1000, inceptd. by B. J. Long, W. D. Kirk, Geo. E. Turner and others.

Tex., Brownwood—Crematory.—City votes March 23 on \$9000 bonds to construct crematory, etc. Address The Mayor. (See Sewer Construction.)

Tex., Houston—Printing.—Chemical Printing Co., 304½ Main St. (lately noted inceptd., capital stock \$5000), continues printing, bookbinding and special ruling business; Edw. C. Brock, Prest.; Carl Clark, V.-P. and Mgr.; H. C. Burt, Secy.-Treas.

Tex., Mexia—Farm Products.—Commercial Club, W. E. McKinney, Secy., is promoting company to install milk-shipping station; plans include later building of 2-story brick structure to be equipped with refrigerator compartments for handling milk, dressed poultry, beef and other farm products.

Tex., San Antonio—Livestock.—Mission Livestock Co., capital stock \$51,000, inceptd. by S. J. Brooks, Ira C. Ogden and E. B. Robinson.

Va., Norfolk—Steamfitters' Supplies.—Seaboard Supply Co., 201-205 Water St., inceptd. with \$50,000 capital stock; Prest., John G. Flack, Philadelphia, Pa.; V.-P., Geo. G. Lee; Secy., Virgilus Tucker; both of Norfolk; Treas., Edward A. Marshall (Prest. Southern Supply Co.), Calvert and Saratoga Sts., Baltimore, Md.

W. Va., Buckhannon—Grain Elevator, etc.—I. A. Stalnaker contemplates building grain elevator and feed mill.

W. Va., Parkersburg—Hardware.—Wiant & Barr Hardware Co., capital \$50,000, inceptd. by W. T. Wiant, Hagan Barr, S. A. Hayes and others.

W. Va., Wheeling—Dairy.—Wheeling Co-operative Dairy Co. (lately noted inceptd.) will conduct dairy and creamery. (See Miscellaneous Factories.)

MISCELLANEOUS FACTORIES

Ala., Birmingham—Auto Tops, etc.—Cruise Crawford Mfg. Co. will erect 2-story, brick, 75x100-ft. factory building; manufacture auto tops, wagon and buggy bodies, etc.; building plans by W. T. Warren, Empire Bldg., Birmingham.

Ala., Mobile—Refrigerators.—Frank J. Thompson is negotiating with North Mobile Development Co. for establishment of refrigerator factory.

Ala., Scottsboro—Limestone.—Scottsboro Limestone Co., capital \$3000, inceptd. to crush lime for agricultural purposes, road building and concrete work; J. C. Jacobs, Prest.; Virgil Bouldin, V.-P.; J. W. Woodall, Secy.

Ark., Magnolia—Bottling.—Hutcherson Bottling Works will increase capacity of plant; erect concrete addition 50x80 ft.

Fla., Key West—Bottles.—F. F. Funk of Webster, Iowa, is reported as contemplating erection of button factory.

Ga., Atlanta—Superheaters.—Nichols Fire Box Superheater Co., J. S. Nichols, Prest., 82 Gordon St. (lately noted inceptd., capital stock \$50,000), will, for the present, let to contract the manufacture of patented superheaters for locomotives, stationery engines, stoves and furnaces; probably build plant later; will soon need following parts and materials: steam box, valve (special), steel arch, pipe connections, steam pipe, flues, etc. (See Machinery Wanted.)

Ga., Rome—Ice Cream.—C. T. Hollinger and others contemplate building ice-cream factory; cost \$5000 to \$10,000.

Ky., Louisville—Varnish.—Louisville Varnish Co. will remodel factory at 1408 Maple St.; cost \$4000.

Ky., Louisville—Toilet Articles.—Stokes Mfg. Co., Courier Journal Bldg. (lately noted inceptd., capital \$5000), organized; J. H. Becker, Prest. and Mgr.; T. L. Eastin, V.-P. and Secy.; John P. Davis, Treas.; manufacture toilet articles and cosmetics.

Ky., Winchester—Tobacco.—French Tobacco Co., capital stock \$2000, inceptd. by W. P. French, J. H. French and W. B. Lindsay.

Md., Baltimore—Ice Cream.—Geo. C. Burdick, 2821 O'Donnell St., let contract to Jos. Schamberger, 212 E. Baltimore St., Baltimore, to erect ice-cream plant at 1101-3 S. Streeter St.; 2 stories; 27x44 ft.; brick; slag roof; cost \$3350.

Md., Cumberland—Medicine.—National Files Cure & Medicinal Mfg. Co., capital stock \$20,000, inceptd. by Chas. L. Cissel, Geo. E. Gray, Edward F. Gilpin and others.

Miss., Greenwood—Pulp and Chemicals.—Economic Power & Products Co., Wm. D. Miller, Secy., Lafayette Bldg., Philadelphia, Pa., purchased 15-acre site for plant; will build plant to manufacture pulp and chemical by-products; progressing with plans for buildings; has contracted for boilers, digesters, machinery, etc.; daily capacity 50 tons pulp; cotton stalks for raw material. (Previously reported organized with \$10,000,000 capitalization and considering Yazoo City as plant location.)

Mo., Joplin—Shade Hangers.—Adjustable Shade Hanger Co., capital \$25,000, inceptd. by Geo. B. Wood, Thos. Douglas and John T. Evans.

Mo., St. Louis—Paint.—Eberson-Lindsey Paint Co., capital stock \$50,000, inceptd. by J. M. Lindsey, Elias E. Eberson and H. P. Fritsch.

Okla., Edmund—Neely-Minco Co., capital stock \$10,000, inceptd. by W. A. Minco and O. N. Weiser of Edmund and S. L. Neely of Longton, Kan.

Okla., Muskogee—Garments.—Ideal Garment Co., capital \$10,000, inceptd. by S. P. Mann, Floy Maron and Charley Parks.

Okla., Muskogee—Soap and Floor Sweep.—Klean Kleaner Mfg. Co., 112 Callahan St., will manufacture soap and floor sweep; needs equipment of jars, cans, crates, barrels, etc. (See Machinery Wanted.)

Okla., Sapulpa—Mattresses.—A. O. Wilkonson (lately noted in connection) states he will not build mattress factory in Sapulpa; plant will be built by N. Marsico of Denison Mattress Factory, Denison, Tex.

Okla., Sapulpa—Glass.—Bartlett-Collins Glass Co. will establish plant; removed wood buildings to Sapulpa and let contract Oklahoma Iron Works, Tulsa, Okla., at about \$6000 for structural frame and covering for building; plant of 12-pot furnace and 6-ring continuous tank; manufacture general line pressed and blown glassware.

Okla., Shawnee—Nut Locks.—"Safety First" Lock Nut Mfg. Co., capital stock \$35,000, inceptd. by R. L. Austin and Sam A. McKelvey of Shawnee and Henry C. Austin of Wilburton, Okla.

Okla., Tulsa—Motor Wheels.—Southwestern Motor Wheel Co., capital \$10,000, inceptd. by Frank P. Peterson, E. W. Rickey and R. E. E. Andrews.

S. C., Charleston—Bags, etc.—Palmetto Bag & Waste Co., capital \$3000, inceptd.; H. L. Schlosburg, Prest.; A. Morgan, Secy.; Alex. Kirsch, Treas.

Tenn., Chattanooga—Tires.—Dixie Tire Mfg. Co., capital \$5000, inceptd. by C. L. Hays, W. A. Dewees, Jr., H. A. Phillips and others.

Tex., Abilene—Bottling.—Texas Coca-Cola Bottling Co. increased capital stock from \$12,500 to \$22,500.

Tex., Dallas—Oxygen Gas.—Oxygen Gas Co., capital stock \$10,000, inceptd. by J. N. Humphreys, J. Muttelman, E. E. Norquist and others.

Tex., Sulphur Springs—Peanuts.—F. W. Betts, Secy., Hopkins County Truck Growers and Shippers' Assn., contemplates establishing or securing establishment of factory to handle peanuts; growers within 10 mi. of Sulphur Springs will plant 2000 acres in peanuts. (See Machinery Wanted.)

Va., Middleburg—Lime.—Goose Creek Lime Works, capital stock \$25,000, inceptd.; D. C. Sands, Jr., Prest.; Otto Furr, Secy.

Va., Norfolk—Silverware.—Hampton Roads Silver Co. (lately noted inceptd., capital stock \$100,000) organized with E. C. Hathaway, Prest.; J. M. Williams, V.-P. and Mgr.; Chas. R. Barnes, Secy.; A. F. Cathey, Treas.; purchased plant formerly owned by Wm. A. Rogers, Ltd.

Va., Richmond—Belts.—Richmond Belt Pressing Mfg. Co., capital stock \$15,000, inceptd.; John E. Doherty, Prest.; M. Ganzert, Secy.

W. Va., Fairmont—Candy.—Fairmont Candy Co., capital stock \$10,000, inceptd. by D. B. Olicker and Sadie Olicker of Fairmont, Max Bear of Monongah, W. Va., and others.

W. Va., Wheeling—Creamery, etc.—Wheeling Co-operative Dairy Co., capital \$25,000, inceptd.; W. A. Morton, Prest.; W. S. Orr, V.-P.; Albert A. Ames, 2800 Chapline St., Secy.; A. J. Brill, Treas.; D. M. Hunter,

Mgr.; install equipment, probable cost \$4000 to \$5000, for butter and ice-cream making. (See Machinery Wanted.)

MOTORS AND GARAGES

Ky., Louisville—Automobiles.—Nickel Automobile Co., 603 Inter-Southern Bldg. (lately noted inceptd., capital \$10,000) organized; Wm. A. Baker, Prest.; Stephen S. Jones, V.-P.; Wm. P. McDonogh, Secy.; Louis C. Heck, Jr., Treas.; will conduct automobile (jitney bus) line; will purchase cars with bodies probably of special design. (See Machinery Wanted.)

La., Alexandria—Automobile Line.—Alexandria Jitneymobile Co., capital stock \$25,000, inceptd. by P. A. Gilham, W. R. O'Neal, Gus Gehr and others.

Md., Baltimore—Garage.—Henry Hoffberger has plans by Callis & Callis, 2555 Kennedy Ave., Baltimore, and let contract to J. L. Robinson Construction Co., 66 Knickerbocker Bldg., Baltimore, to erect garage at 418-30 N. High St.; 68.9x160 ft.; brick; slag roof; cost \$7165. (Lately noted.)

Md., Baltimore—Fannie Briskman has plans by Callis & Callis, 2555 Kennedy Ave., Baltimore, for garage at 1012-16 W. Lexington St.; brick; slag roof; steam heat; cost \$5000; construction by owner.

Md., Baltimore—Garage.—W. D. McLaughlin has plans by Stanislaus Russell, 2900 Clifton Ave., Baltimore, and let contract to Henry Momberger, 34 W. Chase St., Baltimore, to erect garage on Oliver St., near Charles St.; brick; concrete foundation; slag roof; heating, plumbing and lighting reserved.

Md., Salisbury—Automobile Line.—Peninsula Rapid Transit Co. (lately noted organized) elected Wm. P. Lawson, Prest.; Geo. L. Verlander, Secy.; Wm. P. Cooper, Treas.; conduct passenger transportation in motor cars of 17 to 30-passenger capacity; probably purchase erected building for garage and car storage; also install small repair plant; will need repair equipment and automobile accessories. (See Machinery Wanted.)

Mo., St. Louis—Garage.—John Coultas will erect garage at 6131-33 Delmar St.; 1 story; 50x150 ft.; cost \$10,000; Contra, J. Coultas & Son; Archt., Sam. Coultas; Mgr. Henry A. Strain.

Mo., St. Louis—Automobiles.—Detroit Electric Car Co. of Missouri, capital stock \$2000, inceptd. by Milton B. Strauss, Chas. D. Long and Chas. M. Rice.

Mo., Webb City—Automobile Line.—Auto Transportation Co., capital stock \$30,000, inceptd. by E. J. Pratt, D. C. Morris and A. H. Rogers.

Okla., Tulsa—Garage.—Dr. W. Albert Cook let contract E. S. Hutchinson & Co., Tulsa, to erect garage lately noted to be occupied by Nicodemus & Lawson and others; 72½x110-ft. fireproof structure; Nicodemus & Lawson, 305 Drew Bldg., Tulsa, will install automobile repairing equipment.

Okla., Woodward—Garage.—Jas. T. Hastings will build brick garage.

Tenn., Elizabethton—Garage.—City Garage, capital stock \$5000, inceptd. by J. H. Grayson, W. M. Vaughn, Jos. P. Bowers and others.

Tex., El Paso—Garage.—R. L. Slaughter, Jr., and A. B. Albrow will remodel Mills-St. Auditorium as garage.

Tex., Nacogdoches—Automobiles.—Schmidt Auto Sales & Garage Co., capital stock \$15,000, inceptd. by H. J. Schmidt, Albert Bright and John Schmidt.

Va., Portsmouth—Garage.—Mrs. Bridget Mahoney let contract R. K. Revelle to build garage at Middle and Columbia Sts.; 1 story; galvanized iron; cost \$2500.

ROAD AND STREET WORK

Ala., Birmingham—Board Commrs. let contract Paul Richter, Birmingham, for grading, curbing, guttering and sidewalk paving on Lawn St. from 11th to 12th Aves.; estimated cost \$1500; 1500 cu. yds. excavation, 1300 lin. ft. combined cement curb and gutter, 700 sq. yds. cement sidewalk; Julian Kendrick, City Engr.

Ala., Jasper.—Walker County Commrs. let contract Hall & Brown to grade Hillard Rd. for 3 mi. from city limits of Jasper; county has \$250,000 available for road improvements.

Ala., Vernon.—Lamar county votes Mar. 23 on \$150,000 bonds to construct roads. Address County Commrs.

Fla., Daytona Beach.—City let contract C. L. Hornes of Daytona Beach to construct cement sidewalks on portions of 2 streets.

Fla., Jacksonville.—Duval County Commrs. invite bids until Mch. 25 for hard-surfacing

various roads with brick, asphalt macadam or other suitable materials; contracts to be let contingent upon voting of bonds. (Lately noted.)

Fla., Miami.—Dade County Commrs. postponed date of election from Mch. 16 to Mch. 23 to vote on \$100,000 bonds to place hard-surface oil coating on main highway from north county line to Florida City. (Lately noted.)

Fla., Miami.—City will construct 1½ mi. of sidewalks in Dists. 1 and 2; received bids; invites bids to pave 11th St. from South River Drive to Ave. M with liquid asphalt, with reinforced concrete curb and gutter; also invites bids on 16-ft. roadway on Northern Blvd. from 22d St. to Western Blvd.; B. H. Klyce, City Engr.

Fla., Sarasota.—City let contract Geo. M. McAlpin, Sarasota, to construct 1½ mi. 5-ft. sidewalks, 4 in. thick, with 1-in. top.

Fla., St. Petersburg.—City let contract Georgia Engineering Co. of Augusta, Ga., to complete paving of St. Petersburg's Blvd. to Boca Ciega Bay with Augusta block.

Fla., St. Petersburg.—City Commrs. invite bids until Mch. 1 to pave 2d St. from 8th to 12th Ave. and 12th Ave. from 1st to 2d St. with vitrified brick; width of streets, 20 ft.; granite curbing; W. F. Divine, City Clerk. (See Machinery Wanted.)

Fla., Titusville.—Brevard County Third Road Dist. will vote on \$150,000 bonds to construct roads; expend \$40,000 to widen and straighten river road from Melbourne south to Micco, 20 mi.; rebuild and strengthen bridges, etc.; \$70,000 on roads leading west from Tillman, Moree, Mulabar, Valkaria, Grant and Micco; \$40,000 on Melbourne-Kissimmee Rd.; J. B. McCrary Co. of Atlanta, Ga., made preliminary surveys and estimated cost.

Ga., Atlanta.—City, R. M. Clayton, Ch. of Construction, appropriated \$20,000 for repairs to asphalt streets.

Ga., Trenton.—Dade County Commrs. will have preliminary survey made for road which it is proposed to construct; will let contracts; C. S. Turner, Ordinary.

Ky., Carlisle.—Nicholas county votes March 17 on \$125,000 bonds to construct roads. Address County Commrs.

Ky., Greenville.—Muhlenberg County Fiscal Court appropriated \$6000 to construct macadam roads on State-aid plan; improve roads leading to county-seat; additional funds to be secured by popular subscription, amounting to \$6000.

Ky., Letchfield.—Grayson county will construct 6 or 8 mi. metal road; \$100,000 available; date of bids not set; Ed. Butler, Engr., Caneyville, Ky. (Lately noted.)

Ky., Louisville.—Jefferson County Fiscal Court authorized County Engr. to invite bids for 5000 sq. yds. macadam to be used in repair and reconstruction of Upper River Rd. from "Cutoff" bridge to county line, 10 mi.

Ky., Louisville.—City will pave with vitrified block sections of 33d, 34th, Kentucky and other streets; bids until March 1; letting 570; also pave sections of Green St.; bids until March 3; letting 571; Roger G. McGrath, Secy. Board of Public Works. (See Machinery Wanted.)

Ky., Princeton.—Caldwell county votes Apr. 3 on bonds to construct roads. Address County Commrs.

Ky., Lexington.—City let contract Carey-Reed Co. of Lexington at \$246 to clean, repair and oil 31 mi. macadam streets for ensuing year.

Ky., Morgantown.—Butler County Fiscal Court will expend \$10,000 to construct roads.

Ky., Pineville.—Bell county, W. C. Bingham, Clerk, and T. J. Anher, County Judge, will construct 54 mi. macadam road and 2 bridges; Bailey & Culton, Pineville, Engrs.; \$250,000 lately noted voted; road machinery will be purchased. (See Machinery Wanted.)

Ky., Springfield.—Washington County Commissioners will construct about 60 mi. of roads, for which State aid will be asked.

La., Hahnville.—St. Charles Parish Road Dist. No. 2 votes March 9 on \$70,000 bonds to construct gravel road. Address Police Jury.

Md., Baltimore.—City let contract P. Flanagan & Sons, 120 E. Lexington St., at \$13,922.20 to pave Charles St. from Saratoga to Centre St. with sheet asphalt, and to Geo. Long Contracting Co., 3311 1st Ave. E., at \$31,385.50 to pave Fayette St. from Paca to Charles with granite block. (Call for bids lately noted.)

Md., Baltimore.—City will grade, curb and pave with sheet asphalt and vitrified block on concrete base contract No. 112, on Pitcher, Poppleton and Pearl Sts., Bennett Pl. and Arlington, Rutland, Ashland, Myrtle and Druid Hill Aves.; also intersection of Patter-

son Park Ave. and Orleans St., Franklin and Gilmore, Mulberry and Gilmore, Franklin St. and Carrollton Ave., Mulberry St. and Carrollton Ave., Calhoun and Fayette Sts., Franklin and Schroeder Sts., and Calhoun and Saratoga Sts.; 49,100 sq. yds. sheet asphalt, 6800 sq. yds. vitrified block and 1000 sq. yds. granite block; bids until Mch. 3 by Board of Awards, John Hubert, Acting Chrmn., City Register's office, City Hall; R. Keith Compton, Chrmn. and Consult. Engr. Paving Com. (See Machinery Wanted.)

Miss., Hazlehurst.—Copolah county voted \$150,000 bonds to construct roads. Address County Commrs. (Lately noted.)

Miss., Hazlehurst.—Copolah county, Dist. 5, will construct gravel roads; \$150,000 available; appoint commissioners Mch. 1. (Bonds lately noted voted.)

Miss., Pass Christian.—A. Aschaffenberg of New Orleans, La., will construct street 60 ft. wide, with driveway 40 ft. wide and two 10-ft. sidewalks, in connection with development of tract as bungalow park.

Miss., Vicksburg.—Warren county will build about 5 mi. hard-surfaced road; novaculite; bids at office Chancery Clerk until Mch. 2; W. F. King may be addressed. (See Machinery Wanted.)

N. C., Dobson.—Surry county, Long Hill township, did not hold election for previously-noted \$10,000 bonds for road construction on account legal technicality.

N. C., Hendersonville.—Henderson County Mills River Township will arrange to construct roads; \$20,000 bonds available; J. A. Maxwell, Chrmn. County Commrs.

N. C., Kinston.—City, Fred I. Sutton, Mayor, will construct about 12,000 sq. yds. brick, asphalt, bitulithic or other paving; 30,000 lin. ft. concrete curb and gutter; 20,000 sq. yds. sidewalk; also 8 mi. 8 to 18-in. sewers; bids until Mch. 23; Gilbert C. White, Engr., Charlotte, N. C. (See Machinery Wanted.)

N. C., Marshall.—Madison County Highway Com., S. W. Brown, Secy., is asking bids to grade and drain previously-noted (about) 6.9 mi. road leading from Hot Springs; bids until Mch. 16; about 73,550 cu. yds. excavation; J. B. Clingan, County Road Engr. (See Machinery Wanted.)

N. C., Winston-Salem.—City will pave Hickory, 14th, 15th, Mineral, Trade and Academy Sts., Claremont Ave., etc.; \$50,000 bonds voted. Address Mayor Eaton.

Okla., Madill.—Marshall County Commrs. let contract at \$32,000 to improve roads in Tallaferry Township. Edwin Kirk, Clerk.

S. C., Anderson.—City votes Mch. 16 on \$100,000 bonds to pave streets; property owners to pay portion of cost; total expenditure \$250,000. Address The Mayor.

S. C., Orangeburg.—City rejected paying bids opened Feb. 12; will construct by day labor under supervision City Engr. Edward Hawes, Jr.; vitrified brick and wood block pavement; amount available for expenditure \$15,000. (Lately noted.)

S. C., Anderson.—Anderson county votes Mch. 30 on \$750,000 bonds to construct roads; J. S. Fowler, Chrmn. Highway Commrs.

Tenn., Knoxville.—Road Com. will invite bids to complete gap in extension of Clinton pike to Anderson county line, 1½ mi.; build gap in Ball Camp pike at Third Creek, and extend Oldham St. to Lonsdale lunc, ¾ mi.; appropriations, \$7500, \$3500 and \$1500; John Douglass, Road Supt.

Tex., Dallas.—City let contract Texas Bitulithic Co., Dallas, at \$2066 to pave Reiger Ave., Henderson Ave. to Fulton St.

Tex., Fort Worth.—City let contract Texas Bitulithic Co. of Fort Worth to pave with bitulithic 5th Ave. from Jessamine to Roberts St.; width of street 30 ft.; contain about 4167 sq. yds. (Call for bids lately noted.)

Tex., Hallettsville.—Lavaca County Justice Precinct No. 3 (including Shiner, Mount Olive, etc.) votes Mch. 20 on \$300,000 bonds to construct roads. Address County Commrs.

Tex., Longview.—Gregg county votes Mch. 18 on \$300,000 bonds to construct roads. Address County Commrs. (Lately noted.)

Tex., Midlothian.—City let contract W. C. Davis & Sons of Fort Worth to construct 5000 lin. ft. cement sidewalks; this is about one-quarter of work to be built by Sept. 1. (Lately noted to pave 18,335 ft. sidewalks and about 5000 ft. concrete crossings at intersections of streets.)

Tex., San Benito.—City postponed date of election from Feb. 2 to Mch. 2 to vote on \$3000 bonds to improve streets. Address The Mayor.

Tex., Sherman.—Grayson County Dist. No. 1 voted \$10,000 bonds to construct roads. Address County Commrs.

Tex., Taylor.—City votes Mch. 18 on \$100,000 bonds to pave streets. Address City Commrs.

Tex., Waco.—City let contract Texas Bitulithic Co., Dallas, to pave 8th St., Austin to Columbus St.

Va., Bland.—Bland County Commrs. defeated previously-noted \$30,000 bonds for road and bridge construction.

Va., Boydton.—Mecklenburg county voted \$30,000 bonds to construct roads in Bluestone Road Dist. Address County Commrs. (Lately noted.)

Va., Marion.—Smyth county will grade about 20 mi. road; open bids Mch. 1; G. P. Coleman, State Highway Commr., Richmond, Va. (See Machinery Wanted.)

Va., Staunton.—Valley Turnpike Co. will resurface (with Trinidad binder) road from Winchester to Staunton.

SEWER CONSTRUCTION

Ark., Benton.—City Council adopted plans and specifications by J. B. McCrary Co. of Atlanta, Ga., for sewer system and water-works; proposes to vote on \$100,000 bonds. (Noted in January.)

Ark., Harrison.—Albert C. Moore, Engr., Joplin, Mo., completed survey for sewer system; city will probably soon vote on bond issue; Geo. C. Frew, Mayor. (Noted in January.)

Ark., Heber Springs.—City is having surveys for sewerage and water-works systems made by J. B. McCrary Co., Atlanta, Ga.; plans probably ready in about 30 days. (Engineer's name lately incorrectly reported.)

Ark., Malvern.—City let contract J. B. McCrary Co. of Atlanta, Ga., for sewer system and water-works. (Noted in December.)

Fla., Clearwater.—City let contract R. L. Davis to construct sewers and septic tank, Seminole Construction Co. to build segment block tank, and J. A. Grubbs at \$392 to lay pipe.

Ga., Hawkinsville.—City voted \$20,000 bonds to extend sewer system and water-works; G. W. Jordan, Mayor. (Lately noted.)

La., DeRidder.—City voted \$41,000 bonds for first sewerage district; construct about 10 mi. 6, 8 and 10-in. sewer line; J. Y. Dempsey, Prest. Sewer Board Commrs.

La., New Orleans.—Sewerage and Water Board, F. S. Shields, Secy., 5th floor City Hall Annex, invites bids until Apr. 19 for Contract 72-D, additions to drainage pumping station No. 2, and Contract 73-D, sluiceways for drainage pumping station No. 2. (See Machinery Wanted.)

Md., Baltimore.—City will construct Gwynn's Run trunk drain, storm-water contract No. 42, section 1; bids until Mch. 10; about 1200 ft. 15x12-ft. and 150 ft. 18x12-ft. 6-in. drain; 665 ft. excavated outlet channels; 8300 cu. yds. earth, and 700 cu. yds. rock excavation; 4750 cu. yds. concrete; 310 cu. yds. brick masonry; 250,000 lbs. reinforcing steel; Chas. England, Chrmn. Sewerage Com.; John Hubert, Acting Prest. Board of Awards. (See Machinery Wanted.)

Miss., Okolona.—City voted \$58,000 bonds to construct sewer system. Address The Mayor. (Lately noted.)

Mo., Springfield.—City will construct 2 district sewers; estimated cost \$12,000; S. R. Fisher, City Engr., invites bids until Mch. 2.

N. C., Rowland.—City, D. D. McLaurin, Mayor, will complete disposal plant. (Bonds for \$10,000 lately noted voted.)

N. C., Kinston.—City, Fred I. Sutton, Mayor, will construct 8 mi. 8 to 18-in. pipe sewers; Gilbert C. White, Engr., Charlotte, N. C. (See Road and Street Work and Machinery Wanted.)

Okla., Langston.—Colored Agricultural and Normal School has \$20,000 appropriation for sewer system and water-works.

Okla., McAlester.—City, J. M. Gannaway, City Clerk, let contract to McEachin & McEachin, McAlester, at \$2268.09 for 2194.3 ft. 8 and 10-in. sewer, and to John W. Rooks, McAlester, at \$1130.75, Dists. 40 and 42, 734 ft. 6-in. sewer; did not let Dist. 37 and will not at present readvertise this Dist. (Bids lately noted.)

Okla., Tulsa.—City will construct sanitary sewer system, including laterals, outlets, connections, etc., for Sewer Dist. No. 95; bids at office City Auditor until Mch. 1; T. C. Hughes, City Engr. (See Machinery Wanted.)

S. C., Estill.—City receives bids Feb. 26 on material for sewer improvements; J. B. McCrary Co., Engr., Atlanta, Ga. (See Water-works and Machinery Wanted.)

Tex., Brownwood.—City votes Mch. 23 on \$8000 bonds to construct septic tank and crematory. Address The Mayor.

Tex., Fort Worth.—City let contract Montgomery, Watts & Echols at \$2370.65 to construct storm sewer for 2 blocks on Clinton Ave.

Tex., San Benito.—City postponed date of election from Feb. 2 to Mch. 2 to vote on \$5000 bonds to build septic disposal plant and extend present system. J. H. Lyons, Mayor. (Lately noted.)

Va., Blacksburg.—City voted on \$4000 sewer bonds. Address The Mayor.

Va., Dayton.—City, J. L. Fuqua, Mayor, voted previously-noted \$24,500 for sewer, electric-light plant and water-works construction.

TELEPHONE SYSTEMS

Ky., Brock.—Kough Creek Telephone Co. Incptd. by Wm. Marcum, Scott Hubbard and Woodson Burns.

Ky., King.—King Telephone Co. Incptd. by S. J. Mays, J. G. Evans, B. Pope and J. I. Hopper.

Miss., Magnolia.—Cumberland Telephone & Telegraph Co. (main office, Louisville, Ky.) is reported to improve telephone system; enclose 31 mi. of open wire in cables, repair exchange board, place insulated wire from poles to residences, etc.; J. R. Ulmer, Local Manager.

N. C., Mt. Airy.—Surry & Carroll Telephone Co., capital stock \$2000, incptd. by J. A. Tesh, E. J. Miller, J. H. East and I. W. Reece.

Okla., Kingfisher.—Twilight Telephone Co. Incptd. by L. W. Foster, Chas. E. Rogers and C. J. Pierce.

Tenn., Cleveland.—Cumberland Telephone & Telegraph Co. (main office, Louisville, Ky.) is reported to expend \$50,000 for improvements to include erection of 2-story brick fireproof building or leasing and remodeling of structure for central exchange.

Tenn., McMinnville.—Home Telephone Co., capital stock \$3000, incptd.; R. Seal, Prest.; A. P. Warren, V.-P.; L. G. Patrick, Secy.-Treas.

Tenn., Soddy.—Soddy Telephone Co., Jas. A. Roberts, Prest., will install lately-noted telephone system at cost of about \$1000; rural line, 1-mi. radius; needs equipment. (See Machinery Wanted.)

Va., Spottsylvania.—Lee J. Graves, Fredericksburg, Va., purchased Spottsylvania Telephone Co.'s property for \$3500; contemplates improvements.

Va., Sylva.—Reed Island Mutual Telephone Co. increased maximum capital stock from \$5000 to \$10,000.

W. Va., Odd.—Odd Telephone Co. will extend telephone system to Pemberton and later probably to Beckley.

TEXTILE MILLS

Fla., St. Augustine.—Rugs.—J. B. Jackson of Alpha Cottage Industries, Ormond, Fla., plans to establish rug-weaving factory.

N. C., Albemarle.—Cotton Cloth—Eldf Mfg. Co. is not planning to add looms; recent report was erroneous.

N. C., Gastonia.—Cotton Yarn.—Trenton Cotton Mills does not contemplate building addition; recent report was erroneous.

WATER-POWER DEVELOPMENTS

Fla., Fort Pierce.—State plans future installation of hydro-electric plant developing 5000 H. P. at dam to be constructed in connection with drainage enterprise. (See Drainage Systems.)

WATER-WORKS

Ark., Benton.—City Council adopted plans and specifications by J. B. McCrary Co. of Atlanta, Ga., for water-works and sewer system; proposes to vote on \$100,000 bonds. (Noted in January.)

Ark., Malvern.—City let contract J. B. McCrary Co. of Atlanta, Ga., for water-works and sewer system. (Noted in December.)

Fla., Ocala.—City contemplates purchasing and installing motors to operate pumps for water-works and motor-driven air compressors; J. C. Caldwell, Supt.

Fla., Tampa.—Tampa Water-works Co., Chester R. McFarland, Gen. Mgr., let contract McGucken & Hyer of Tampa to construct reservoir; reinforced concrete; 206 ft. long, 125 ft. wide and 20 ft. deep; covered with concrete roof built across it in 2 spans from partition down through center. (Lately noted.)

Ga., Alma.—City votes Mch. 3 on \$15,000 bonds to construct water-works. Address The Mayor.

Ga., Hawkinsville.—City voted \$20,000 bonds

to extend water-works and sewer system; G. W. Jordan, Mayor. (Lately noted.)

La., Bastrop.—City voted \$16,000 bonds for water-works and electric-light plant improvements. Address The Mayor.

La., DeRidder.—City voted \$34,000 bonds to buy private water-works and install city water system, meeting underwriters' inspection. Address The Mayor.

Md., Braddock Heights.—Braddock Heights Water Co., O. B. Coblenz, Pres., let contract LeRoy Hoke at about \$2500 to construct reservoir; 17 ft. deep; diam., 50 ft.; capacity, 250,000 gals.; install duplicate pumping plant, operated by electricity and automatic device to regulate depth of water. (Lately noted.)

Mo., Butler.—City will purchase water-works for \$32,500; has \$75,000 bonds available. Address The Mayor. (Lately noted.)

Mo., Carthage.—Board of Public Works will purchase and install deep-well pump capable of delivering about 200 gals. per min.; A. P. Knowles, Supt. (See Electric Plants.)

Mo., Chillicothe.—City will make lately-noted extensions to water-works; bids received by Fred W. Cornue, City Auditor, Feb. 9; about 600 tons cast-iron pipe, 10,000 lbs. special castings, with valves, hydrants, etc.; Harper & Stiles, Consult. Engrs., 911 Grand Ave. Temple, Kansas City, Mo.; \$135,000 bonds. (See Machinery Wanted.)

Okl., Langston.—Colored Agricultural and Normal School has \$20,000 appropriation for water-works and sewer system.

S. C., Estill.—City receives bids Feb. 26 on materials for proposed water-works, electric-light and sewer improvements; J. B. McCrary Co., Engr., Atlanta, Ga. (See Machinery Wanted.)

S. C., Union.—City voted lately-noted \$25,000 bonds; will extend mains to new water supply, build pump station and erect 6000-volt 3-phase transmission electric line; R. A. Easterling, Supt. Electric Light and Water Works, in charge of construction.

Tenn., Maryville.—City votes March 20 on \$55,000 bonds to construct water-works. Address The Mayor.

Tenn., Waverly.—City Light & Water Co., capital \$4000, incptd. by H. W. Hooper, J. D. Luten, J. F. Daniel and others.

Tenn., Waverly.—City Light & Water Co., capital stock \$4000, incptd. by H. W. Hooper and others. (See Electric Plants.)

Tex., Mincola.—City voted \$24,500 water-works bonds. Address The Mayor.

Va., Dayton.—City, J. L. Fuqua, Mayor, voted previously-noted \$24,500 for water-works, electric-light plant and sewer construction.

WOODWORKING PLANTS

Ark., Cotter—Staves.—Golden Stave Co., capital stock \$10,000, incptd. by Ray R. Ramey, J. W. Williamson, E. Billingsley, R. F. Wood and others.

Ark., Nashville—Boxes, etc.—Allen Lumber & Box Co., capital \$120,000, incptd. by J. H. Allen and W. J. Lockwood. (See Lumber Manufacturing.)

Fla., Tampa—Furniture.—Isaac DeKubber of Grand Rapids, Mich., is reported as contemplating establishment of furniture factory.

Ky., Roxana—Staves.—McGloone Bros. are reported as contemplating installation of additional stave mill.

Mo., Springfield—Pencils.—Houston & Liggett Pencil Factory is reported to install 12 motors using about 100 H. P. for electrical operation of plant.

Tenn., Cleveland—Chairs.—Cleveland Chair Co. will erect 160x64-ft. mill-construction building costing \$8000; install chair machinery. (Lately noted to be built by J. F. Milne.)

Tex., Temple—Sash and Doors, etc.—Temple Sash & Door Co., 7th St. and Ave. A, organized with J. H. Walraven, Pres. and Mgr.; J. W. Watson, V.P.; J. W. Jones (probable), Secy.; Frank Watson, Treas.; use leased building; install machinery (mainly purchased) to manufacture sash, doors and fixtures. (See Machinery Wanted.)

FIRE DAMAGE

Ala., Bay Minette.—G. W. Burns & Son's warehouse and store; G. H. Burns' residence, occupied by W. B. Vandiver; H. H. Page's building; building owned by G. W. Burns and occupied by J. D. Windham; total loss \$10,000.

Ala., Gadsden.—Belle Theater, owned by R. B. Kyle and leased to Will B. Wood; loss \$7500 to \$8000.

Ala., Jackson.—Levi Frisbie's residence.

Ala., Mayo, R. F. D. from Alton.—Masonic-Pythian Bldg.; Citizens' Bank; J. L. Poore's store; Ben Aarons' store; Ware Drug Co.'s store; Mayo Furniture Co.'s store; loss about \$50,000.

Ala., Montevallo.—Davies & Jeter Mercantile Co.'s store, loss \$44,000; Mrs. Wiley's building, loss \$3500; W. B. Strong & Co.'s drug store, loss \$3000; Southern Bell Telephone Co.'s exchange, loss \$5000.

Ark., Harrison.—Dr. J. K. Johnson's building; loss \$7000.

Ark., Jonesboro.—Burgess & Barton's building; Drs. Burns and Lutterloh's building; C. L. Kennard's building; total loss \$10,000.

Ark., Texarkana.—Joe Morton's residence on College Hill; loss \$3000.

Ark., Tillar.—E. P. Terry & Co.'s store; Fain Grocery Co.'s store; C. G. Gillespie's building; total loss \$25,000.

D. C., Washington.—Thomas W. Stubblefield's dwelling at 4619 16th St. Ext.; loss about \$10,000.

D. C., Washington.—E. B. Adams Co.'s store at 614-16 Pennsylvania Ave. N. W., owned by Barber estate; loss on building \$5000.

Ky., Glendale.—H. M. Hatfield Co.'s store, loss \$12,000; M. E. Goff's store, loss \$3500.

Ky., Louisville.—Rose Mary Gum Co.'s plant at 2314 Garland Ave.; loss \$3200.

Ky., Louisville.—Louisville Training School on S. 3d St.; loss \$8000.

Ky., Pineville.—Samuel Slusher's residence; loss \$4000.

Ky., White Plains.—B. F. Duke's hotel; loss \$4000.

La., Morrow.—J. C. Vannory's plantation residence.

La., Rayville.—Rayville Lumber Co.'s building; loss \$8000.

Md., Harrisonville, R. F. D. from Owings Mills.—Harrisonville Public School at Liberty and Deer Park Rd.; John Norris Price and others, trustees.

Miss., Barlow.—Barlow Old Store; Dr. F. L. Furr's office; Wooten Bros.' store; L. V. Newton's store, occupied by Loulin Allread; S. A. Smith's store; Leggett Store; Hazelhurst Oil Mill & Fertilizer Co.'s building.

Miss., Hattiesburg.—Residence on Adelaine St., owned by J. Monroe Smith of Smith Candy Co.

Miss., Meridian.—Rex Lumber Co.'s main building.

Miss., Philadelphia.—Masonic Temple; loss \$51,000.

Mo., Buckner.—Residence of J. G. Burnley, Prest. of Bank of Buckner; loss \$6200.

Mo., Exeter.—Public school; loss \$3000. Address School Trustees.

Mo., Joplin.—Red Cloud Mining Co.'s 150-ton mill.

Mo., St. Louis.—LaCade-Christy Clay Products Co.'s plant; loss \$100,000.

Mo., St. Louis.—Laclede-Christy Clay Products Co.'s plant No. 3 at Manchester and Sulphur Aves.; estimated loss \$100,000.

Mo., Webster Groves.—Henry C. Tulley's residence at 207 Oakwood Ave.; loss \$15,000.

N. C., Charlotte.—Charlotte Cotton Fiber Co.'s plant at W. 1st St. and Southern Ry.; estimated loss \$50,000 to \$60,000.

N. C., Greensboro.—American Commission Co.'s building, owned by W. M. Ridenhour; loss \$8000.

N. C., Jamestown.—High School; loss \$8000. Address School Trustees.

N. C., Southport.—A. J. Robbins' building, loss \$8000; Mrs. J. W. Perkins' bakery, loss \$3000.

S. C., Greenville.—J. A. Floyd's store and residence.

S. C., Mullins.—Beulah M. E. Church and parsonage, Rev. I. H. Richardson, pastor.

S. C., Newberry.—Thos. W. Keitt's gin-house.

Tenn., Burnet.—W. L. Stark's residence; loss \$3000.

Tenn., Baggetttsville, R. F. D. from Springfield.—W. J. Fraser's residence on Kingston pike; loss \$6500.

Tenn., Camden.—Cyrus Thompson's residence on Depot St.; loss \$3000.

Tenn., Graysville.—Girls' dormitory at Southern Training School of Seventh Day Adventists; loss \$12,000.

Tenn., Holly Leaf.—W. T. Scott's store; loss \$5000.

Tenn., Lula.—W. P. Hurley's store; loss \$4500.

Tex., Columbus.—High school; loss about \$5000. Address School Trustees.

Tex., Ennis.—Ed. S. Overhiser's residence at 908 N. Main St.

Tex., Floyd.—A. M. Rhyne & Co.'s store; postoffice; W. E. Johnston's market; Claud Johnson's barber shop.

Tex., Fort Worth.—Building in Brooklyn Heights, occupied by Matt Atwood.

Tex., Houston.—Mrs. Peter Bob's rooming-house, owned by Mrs. C. D. Elson; loss about \$5000.

Tex., Lampasas.—R. A. Martin's store; Eli Mitchell's store; loss \$20,000.

Tex., San Angelo.—B. D. Howell's residence; loss \$3000.

Tex., Roaring Springs.—C. J. Bell's restaurant, loss \$4600; O. O. Love's store, loss \$4000.

Tex., San Angelo.—Company Cotton Gin.

Tex., St. Andrews.—Gin owned by L. F. Karnstadt of Ottine, Tex.; estimated loss \$1000.

Tex., Sumner.—Emerson & Brown's gin; estimated loss \$8000.

Tex., Temple.—Wm. Taylor's dwelling; Gem Grocery Store, owned by C. de Moore & Son.

Tex., Terrell.—Miss Fannie Beard's residence; loss \$3000.

Tex., Waco.—Dr. Samuel Province's residence.

Tex., West.—Will Tubb's residence; loss \$5000.

Tex., Whitesboro.—Whitesboro Gin & Mill Co.'s gin and grist mill; loss about \$14,000.

Va., Christianburg.—Building owned by Cohen estate, loss \$3500; Spindle & Surface's store, loss \$10,000.

Va., Millboro.—Millboro Hotel; loss \$30,000.

Va., Pocahontas.—Pocahontas Inn, owned by Saml. G. Walker, Welch, W. Va., and Chas. G. Hight, Charleston, W. Va.; loss \$15,000.

W. Va., Logan.—Dwelling owned by Mrs. Coleman and occupied by John Ellis.

W. Va., Richwood.—Dodge Clothespin Co.'s plant; loss \$7000 to \$10,000.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ark., Texarkana.—Conway Bros. will erect apartment house; 2 stories; brick; 2 apartments of 5 rooms each.

Fla., Jacksonville.—R. Kloeppel is erecting store and apartment building. (See Stores.)

Fla., Miami.—Edwin Kelly will erect apartment-house; 2 stories; 1, 2 and 3-room suites; frame construction.

Fla., Tampa.—S. Pardo is having plans prepared for store and apartment-house. (See Stores.)

Ga., Atlanta.—Ben J. Massell will erect store and apartment building. (See Stores.)

Ga., Atlanta.—Fitzhugh Knox will erect apartment-house at Piedmont Ave. and 3d St.; 3 stories; 12 suites.

Ky., Louisville.—C. R. Schrader will erect 2 brick apartment-houses at 210 S. 10th St.; cost \$5000.

La., New Orleans.—Mark A. Smith will erect 2-story frame duplex apartment-house at Lakeview.

S. C., Columbia.—Southern Investment Co. will erect apartment-house at Hampton Ave. and Gregg St.; cost \$10,000; E. T. Summer-set in charge of construction.

Tex., El Paso.—Perry-Kirkpatrick Co. will erect brick apartment and garage at Chihuahua and San Antonio Sts.; cost \$30,000.

Va., Norfolk.—Dr. A. R. Chalmers will erect store and apartment-house. (See Stores.)

Va., Norfolk.—Barclay & Fisher will erect two 3-story brick apartments in Colonial Ave.; cost \$14,600.

Va., Richmond.—Atlantic Construction Co., Inc., will erect 2-story brick tenement-house on Harrison St.; ordinary construction; tin roof; 60x50 ft.; cost \$3500; plans and construction by owner.

Va., Richmond.—Davis Bros. will erect 3-story brick apartment-house on Mulberry St. between Stuart and Hanover Aves., to cost \$35,000; also erect eleven 2-story brick dwellings on Addison St.; cost \$25,000.

ASSOCIATION AND FRATERNAL

Ga., Atlanta.—Y. M. C. A. will erect branch Y. M. C. A. building on Butler St. between Edgewood and Auburn Aves.

Ky., Louisville.—Shawnee Lodge, A. F. & A. M., will erect building; 2 stories and basement; brick; cost \$13,000.

Okl., Ardmore.—W. O. W. Lodge is reported considering erection of lodge building.

Okl., Lehigh.—A. F. & A. M. are reported to erect business and lodge building; 2 stories; brick.

Tenn., Cleveland.—Modern Woodmen, Henry Westfall, Dist. Mgr., is reported planning to erect building.

Tex., Rockport.—Rockport Lodge No. 223, A. F. and A. M., will erect Masonic temple.

W. Va., Grafton.—Y. M. C. A. is considering erection of \$30,000 building; lower floor for business purposes.

BANK AND OFFICE

Ark., Heber Springs.—Clebune County Bank adopted plans for bank building to re-

place burned structure; Italian renaissance; 2 stories; 50x140 ft.; cost about \$30,000. (Lately noted.)

Ark., Jonesboro.—J. L. Burns & C. M. Lutterloh will rebuild office building reported damaged by fire; 22x100 ft.; ordinary construction; felt roofing; cost \$3000.

Fla., Miami.—Bank is being organized with Frank B. Shuts of Shuts, Smith & Bowen, Pres.; is reported having plans prepared by Victor Frohling, 114 E. 28th St., New York, for building at Ave. C and 12th St.; 10 stories; first story Bedford stone; upper stories brick with terra-cotta trimmings; 50x120 ft.; structural steel construction; 2 electric elevators; lower floor for stores and bank; upper floors for 90 offices; cost \$230,000 exclusive of interior decorations and furnishings. (Lately noted.)

Mo., St. Louis.—Woman's Council of St. Louis will erect office and club building. (See Miscellaneous.)

Okl., Chickasha.—First National Bank has plans by L. P. Larson, Chickasha, for 2-story building; 50x100 ft.; brick, concrete, steel, marble; tar and gravel roof; metal ceiling; electric fixtures; cost \$7000.

Okl., McAlester.—W. G. Welmer is reported considering erection of business and office building; 8 stories.

Okl., Tulsa.—R. T. Daniel is reported to erect 7-story office building at 3d and Boston Sts.

Okl., Woodward.—First National Bank contemplates erection of bank building.

Okl., Woodward.—Central Exchange Bank plans erection of 2-story brick bank building.

Tex., Beaumont.—Jossey-Miller Grain Co. and J. S. Jordan acquired Park Bank Bldg. and will remodel for store and office building. (See Stores.)

Tex., Rosebud.—First National Bank will erect 2-story brick bank building; 25x60 ft.

W. Va., Huntington.—American Ry. Co., J. J. Sullivan, Pres., Wetherspoon Bldg., Philadelphia, is reported to erect building for offices, etc. (See Railway Stations, Sheds, etc.)

W. Va., Parkersburg.—Wood County Bank, Edw. Nelly, Pres., is reported to expend \$60,000 to improve bank building.

CHURCHES

Ala., Bay Minette.—Baptist church will erect building. Address The Pastor.

Ala., Linden.—Baptist church contemplates erecting brick building; about 50x60 ft.; tin or metal shingle roof; cost \$5000 to \$10,000; J. J. Justice is interested. Address The Pastor.

Ark., Little Rock.—First Christian Church, Rev. J. H. O. Smith, pastor, will not erect building; previous report incorrect.

Fla., Clearwater.—Christian church will erect building; W. A. Cameron, elder, Largo, Fla.

Fla., Coconut Grove.—Methodist congregation is reported to erect building. Address The Pastor.

Ga., Savannah.—St. John's Church, Rev. W. P. Dakin, rector, is reported to improve parish hall and chancel at cost of \$8000 to \$10,000; extend chancel, install heating plant, remodel parish hall, divide into about 20 classrooms with sliding partitions, etc.

Ky., Mt. Sterling.—Baptist church, Rev. J.

S. Wilson, pastor, will erect building; pipe organ will be installed.

La., Algiers, Station A, New Orleans.—Presbyterian Church will erect building on Opelousas Ave. near Olivier St. Address The Pastor.

Md., Baltimore.—Trinity Protestant Episcopal Church is having plans prepared by Clyde N. Friz, 1533 Munsey Bldg., Baltimore, for building at Ten Hills; 42x90 ft.; brick and frame; slate roof; steam heat; electric light; cost \$9000; plans probably ready about Feb. 21 and bids due Feb. 28; bidders: E. G. Turner, 15 E. Fayette St.; J. Henry Smith, German and Lights Sts.; Cowan Bldg. Co., 106 W. Madison St.; Edw. Watters & Co., 509 N. Charles St.; A. Kneil, Jr., 215 St. Paul St.; Gladfelter & Chambers, 2074 Woodberry Ave.; Monmonier & Sorrell, 1711 McCulloh St.; all of Baltimore.

Md., Frostburg.—Salem Reformed Church, Rev. G. E. Metger, pastor, will remove present structure back 18 ft. 10 in. and erect new structure in front; brick; plans in progress; Geo. Knielem, Centennial St., may be addressed. (Lately noted.)

Miss., McComb.—Baptist Church has plans for Sunday-school building; cost \$7500. Address The Pastor.

N. C., Falling Creek.—Cedar Dell Baptist Church will erect building to cost about \$4000. Address The Pastor.

Okla., Ada.—First Methodist Church will erect building; 2 stories; brick; ordinary construction; plumbing separate from general contract; J. O. Parr, Archt., 620 Security Bldg., Oklahoma City, Okla.

Okla., Pawhuska.—Methodist Church, Rev. J. T. Riley, Pastor, will rebuild church; 70x90 ft.; cost about \$12,000.

Tenn., Knoxville.—East Vine Ave. M. E. Church has plans by W. H. Gildard, Knoxville, to remodel building; cost \$6500; bids being received in office of architect.

Tenn., Knoxville.—Seney M. E. Church is having plans prepared by W. H. Gildard, Knoxville, to erect building on E. Nelson St.; brick veneer; cost \$4800.

Tex., Sulphur Springs.—Baptist Church, Rev. W. T. Bartlett, pastor, will erect building; 50x50 ft.; ordinary construction; composition roof; furnace heat; electric lights; cost \$5000; W. A. Rayfield & Co., Archts., P. O. Box 649, Birmingham, Ala.; bids opened in Apr.

Va., Greenville.—Mt. Carmel Church will erect \$15,000 building. Address The Pastor.

Va., Luray.—Episcopal church is having plans prepared by Mims, Spence & Co., Luray, for building; brick and stone; lights; heating and ventilating; slate or tile roof.

Va., Richmond.—Woodland Heights Baptist Church, Rev. R. D. White, pastor, has plans by J. M. McMichael, Charlotte, N. C., for building at 31st St. and Spring Hill Ave.; main auditorium to seat 500; sliding partitions in Sunday-school; cost \$18,000 to \$25,000; Jos. P. Sadler, Chrmn. Building Com.

W. Va., Ridgeley.—United Brethren Church will erect building. Address The Pastor.

CITY AND COUNTY

Ga., Rome.—City Hall.—City is having plans prepared by A. Ten Eyck Brown, Atlanta, for city hall and auditorium at Broad and 6th Sts.; 140x170 ft.; fireproof construction; roofing not decided; low-pressure steam heat; lighting system only, no generators; plans ready about March 20; construction begins May 1; cost \$90,000. (Lately noted to have voted \$75,000 bonds.)

La., Melville.—Jail.—Town has plans by Hiram A. K. Gray, Melville, for lately noted jail; 20 ft. 7 in. by 34 ft. 6 in.; 1 story; fireproof; tin or asbestos roof; hot-water heating plant to cost \$100; electric lights; cost \$950, exclusive of plumbing. Address The Mayor. (See Machinery Wanted.)

Okla., Tulsa.—Library.—City is reported to have selected plans by J. W. Hawk, Tulsa, for Carnegie library; cost, including equipment, \$65,000.

S. C., Greenville.—Jail.—Greenville County Comms. will erect \$30,000 jail; fireproof; T. I. Charles, Chrmn. Jail Com.

Tenn., Kingston.—Jail.—Roane County Court appointed committee, Sam H. Hart, Chrmn., Kingston, to enlarge jail building; will erect additional story, install duplicate set of cages above present ones and make other repairs; correspondence with jail builders invited. (See Machinery Wanted.)

Tex., Wharton.—Library.—City is having plans prepared by Jules Leffland & Son, Victoria, Tex., for Carnegie library; 2 stories; brick; 33x56 ft.; reinforced concrete foundations; pressed brick walls; steel ceilings; metal tile roof; cost \$8000.

COURTHOUSES

Ga., Chatsworth.—Murray County Comms. will erect courthouse; sheet-steel roof; cost \$25,000; D. R. Dunn, Chrmn. County Board, Fairy, Ga.

Tex., Vernon.—Wilbarger County Comms. receive bids until Mch. 8 to remodel courthouse according to plans by L. L. Thurmon & Co., Dallas; plans and specifications at office of architect; J. B. Coveland, County Judge.

DWELLINGS

Ala., Birmingham.—J. W. Whitfield will erect 2-story brick-veneer residence on Summit Ave. and 40th St.; cost \$10,000.

Ala., Birmingham.—J. J. Lanmer will erect 2-story frame residence at 29th St. and 3d Ave.; cost \$4500.

Ala., Birmingham.—Jos. Wood will erect 2-story brick-veneer residence at Norwood Blvd. and 33d St. north; cost \$5000.

Ala., Birmingham.—Pelham Anderson will erect 2-story frame residence at 13th Ave. and 34th St. south; cost \$5000.

Ark., Texarkana.—E. P. Klein has plans by A. B. Jewett, Texarkana, for double bungalow at 14th St. and County Ave.

D. C., Washington.—Chas. Ray Dean has plans by Geo. O. Totten, Jr., 808 17th St. N. W., Washington, for dwelling at 23d St. and Tracey Pl.; 2 stories; 50x40 ft.; brick; slate roof; steam heat; electric light; cost about \$12,000; bidders are C. A. Langley, 310 12th St. N. W.; W. P. Lipscomb & Co., 1405 F St. N. W.; Jas. L. Marshall, 709 10th St. N. W.; F. L. Wagner, 1413 H St. N. W., all of Washington; bids due Feb. 27.

D. C., Washington.—Kennedy Bros., 1334 H St. N. W., have plans by A. H. Sonneman, same address, for 6 dwellings at 1815-25 Irving St.; 2 stories; 23.5 and 24x35 ft.; brick; slag roof; hot-water heat; electric light; cost \$36,000; construction by owners.

Fla., Bartow.—E. J. Lagore will erect 9-room bungalow at Summerlin and Carpenter Sts.; porches on 3 sides.

Fla., St. Augustine.—W. J. Harris will erect cottage; 2 stories; cost \$2500.

Fla., St. Petersburg.—John Beck, V. P. of Pearl Street Savings & Trust Co., Clayton, O., and John C. Auerbach, Pres. of Lincoln Bank, Cleveland, O., will erect residence.

Fla., St. Petersburg.—N. Sutloff, Terre Haute, Ind., is reported to erect residence.

Fla., Valrico.—S. R. VanSant, Minneapolis, Minn., has plans by F. J. Kennard, Tampa, Fla., for residence on Hopewell Blvd.; 30x30 ft. with kitchen detached; frame; shingle roof; hot-air heat; probably electric lights; cost \$3000 to \$3500. (Previously noted.)

Ga., Atlanta.—W. E. Burt will erect residence; 2 stories; frame; cost \$4000.

Ga., Atlanta.—A. B. Buehl will erect 3 residences on Columbia Ave. and 13th St.; cost \$3500 each.

Ga., Lagrange.—Hillside Cotton Mills will let contract Mch. 16 through Fuller E. Callaway, Treas., to erect 125 four-room tenant-houses; contractors wishing to bid must apply in writing to Park A. Dallas Co., Archt., 913 Candler Bldg., Atlanta. (Lately noted.)

Ga., Savannah.—Standard Investment Co. is erecting 2 two-story frame dwellings of 6 rooms and bath; metal roof; plumbing; electric lighting; gas; also plans to erect 8 or 10 two-story frame metal-roof dwellings in spring or summer; I. P. Crutchfield, Archt., 104 E. Congress St., Savannah.

Ky., Louisville.—Charles Chrestle will erect 6 frame cottages at 1212-24 Goss Ave.; cost \$5400.

Ky., Louisville.—Peter Sani will erect brick dwelling at 1811 Eastern Parkway; cost \$3000.

Ky., Louisville.—E. R. Bassett will erect 4 frame cottages at 146-60 Charlott St.; cost \$3200.

Ky., Louisville.—Edw. Palmer will erect frame dwelling at 625 S. 40th St.; cost \$3000.

Ky., Louisville.—J. R. Dorsey will erect 3 frame dwellings at 1037-39-43 Cecil Ave.; cost \$4350.

Ky., Louisville.—Anna M. McGill will erect brick dwelling at 1482 Cherokee Rd.; cost \$7000.

La., New Orleans.—Dr. S. S. Grosjean is having plans prepared by M. H. Goldstein, New Orleans, for 2-story brick and frame residence.

La., New Orleans.—Ed de Armas will erect double raised cottage for Mr. Alcatore.

La., New Orleans.—Henry Ortlund will erect 2-story frame bungalow on Gayoso St.; hot-air heat.

Md., Baltimore.—Hamilton Park Co., John W. Lohmuller, 1121-3 Calvert Bldg., bought McAllister tract of 270 lots on Harford Rd. for improving with dwellings to cost about

\$4000 each; will erect two or three at present; G. Bernard Lohmuller, Archt., same address as company.

Md., Baltimore.—E. J. Gallagher Realty Co., 919 Munsey Bldg., acquired property between Philadelphia Ave. and McElderry St. and Potomac St. and eastern city line; will eventually erect between 300 and 400 dwellings.

Md., Baltimore.—C. Y. Peyton is reported having plans prepared by E. L. Palmer, Jr., Roland Park Co., Roland Park, Md., for dwelling at Guilford.

Md., Baltimore.—Hugh H. Young has plans by Elliott & Emmart, 1102 Union Trust Bldg., Baltimore, for additions and alterations to dwelling on Cold Spring lane, Guilford; open and enclosed sleeping porches; enclosures, screen and glass; steam heat connections; bidders are Cowan Bldg. Co., 106 W. Madison St.; Gladfelter & Chambers, 2074 Woodberry Ave.; Willard E. Harn Co., 213 N. Calvert St.; all of Baltimore, and Israel S. Owings, Highland Ave., Mt. Washington.

Md., Baltimore.—O. B. Wight, Munsey Bldg., Baltimore, is preparing plans to erect dwelling at Forrest Park; 46x35 ft.; 2 stories; frame and stucco; slate roof; gas and electric lighting; hot-water heat; cost \$7000; owner's name withheld.

Md., Baltimore.—Gilbert & Ridgely, 8 Old Builders' Exchange Bldg., have plans by Jno. R. Forsythe, 227 St. Paul St., Baltimore, for dwelling on Garrison Ave. at Forest Park; 2½ stories; 25x30 ft.; frame; slate roof; steam heat; gas and electric light; cost about \$4500.

Md., Baltimore.—Patterson & Gilbert, 8 old Builders' Exchange Bldg., have plans by Jno. R. Forsythe, 227 St. Paul St., Baltimore, for 8 dwellings on 33d St. near Tinges La.; 2 stories; 16x48 ft.; brick; Carey roofing; steam heat; gas and electric light; cost about \$20,000; construction by owners.

Md., Baltimore.—Frank Novak Realty Co., 744 N. Kenwood Ave., will erect 15 dwellings at Linwood Ave. and Curley St.; 7 on Linwood Ave., two 15x70, five 14x70; 8 on Curley St., 12.6x65 ft.; brick; hot-air heat; gas and electric light.

Md., Belmar.—Chas. A. Overbeck will probably let contract to Henry Kolb, Belmar, to erect dwelling; 32x28 ft.; frame; slate roof; steam heat; gas and electric lighting; cost \$3400; Jos. M. Chetlat, Archt., Belmar; Mr. Kolb is also preparing estimates for another dwelling to cost about \$4000.

Md., Cumberland.—Johnson Heights Improvement Co. contemplates erecting dwellings.

Md., Cumberland.—Richard D. Johnson will erect 12 brick dwellings on Johnson Heights.

Md., Frederick.—Geo. O. Grossnickle will erect residence; 36x38 ft.; pressed brick; porches front and side.

Miss., Moorhead.—W. D. Parker will rebuild plantation residence lately noted burned; 42x60 ft.; ordinary mill construction; shingle roof; cost \$3000; plans and construction by owner.

Miss., Pass Christian.—A. Aschaffenberg, New Orleans, acquired site extending 350 ft. on Gulf; will plat same, erect 35 bungalows to cost \$2500 each, construct street 36 ft. wide with 40-ft. driveway and 10-ft. sidewalk on each side, provide tropical park, lay off beach lot into flower garden and rest places, construct pavilion at end of pier in front, etc.

Mo., St. Charles.—Sol Grebengeiser acquired, through A. J. Jacobs, St. Louis, 650-acre farm and is reported to erect 10-room residence, barn to accommodate 200 cattle, and with silo, smokehouse and tenant-houses; Mr. Jacobs reported to organize company with \$25,000 capital stock to establish dairy farm.

Mo., St. Louis.—J. C. White will erect brick cottage on New Ashland Pl.; cost about \$3000.

Mo., St. Louis.—Chas. E. Bascom will erect residence in Portland Pl.; colonial style; 3 stories; brick; about 12 rooms.

N. C., Charlotte.—John M. Scott has plans by William H. Peeps, Charlotte, to erect dwelling; about 70x70 ft.; brick veneer; slate or tile roof; hot-water heat; bids opened about Feb. 25. (Lately noted.)

N. C., High Point.—J. Gurney Briggs has plans by Northup & O'Brien, High Point, for residence in Roland Park; 35x40 ft.; cedar shingle roof; cost \$3500 to \$4000; hot-water heating plant, \$500. Address owner.

N. C., High Point.—W. E. Price, Bascom Hoskins, N. H. Newschafer, Gurney Briggs, Jos. Weaver, E. L. Crouch, Frank Sizemore, E. A. Wells, B. C. Fowland, M. L. Davis and Jos. Cox are reported to erect dwellings to cost from \$3000 up.

N. C., High Point.—Dr. J. W. Austin has plans by Herman Robert Hersh, High Point, for residence in Roland Park; 33 ft. 7 in. by 36 ft. 8 in.; brick veneer; slate or cypress shingle roof; hot-water heating plant to cost \$500; electric lights to cost \$100; cement sidewalks; will open bids about June 1; cost \$6000 without mechanical equipment. (See Machinery Wanted.)

N. C., Raleigh.—Mrs. Mary Linton will erect dwelling on Halifax St.; 2 stories; cost \$2800.

N. C., Statesville.—D. O. Cowan will erect residence on E. Front St.

N. C., Stateville.—A. W. Bunch of Crawford-Bunch Furniture Co. will erect residence on Park St.

N. C., Wilmington.—W. P. McGlaughon will erect bungalow on 15th St.; cost \$3000.

N. C., Wilmington.—W. L. Parsley will remodel residence on Market St.; cost \$4000.

Okla., McAlester.—J. J. Walsh is having plans prepared for 4 dwellings; cost \$3000 to \$5000 each.

Okla., Norman.—Floyd Swank will erect residence.

Okla., Oklahoma City.—Stewart & Wilderson will erect 2 dwellings; cost \$4000.

Okla., Stillwater.—H. B. Bullen will erect 2-story residence and garage.

Okla., Stillwater.—John Weaver plans to erect residence.

Okla., Stillwater.—W. E. Scroggs will erect residence near Stillwater.

Okla., Tulsa.—Blair Bros. will erect \$11,000 residence at 15th and Denver Sts.; Spanish brick and tile finish; 2 stories and basement; steam heat; vacuum cleaner; preparing plans for 2 dwellings on Denver St. between 15th and 16th Sts. to cost \$17,000; also preparing plans for following residences: For Valjean Bldgson, \$5000; C. W. Singleton, \$5000; Samuel Davis, \$10,000; S. W. Parish, \$15,000; W. B. Frederick, \$6000; John Mayo, \$15,000; C. S. Waite, 2 dwellings, \$13,000.

S. C., Carlisle.—Methodist Episcopal Church South, Rev. Watson B. Duncan, Jr., pastor, will rebuild parsonage lately noted damaged by fire; 1 story; frame; ordinary construction.

S. C., Spartanburg.—E. F. Bell will erect residence on Washington St.; cost about \$8000.

S. C., Spartanburg.—Miss Jessie Thompson will erect residence on Pine St.

Tenn., Chattanooga.—John Y. Bayliss, Mgr. Interstate Commerce Com., has plans by Barnwell & Jones, Chattanooga, for residence; tapestry brick and frame; 7 rooms; Dutch colonial style.

Tenn., Knoxville.—Arthur Belts is having plans prepared by A. B. Baumann, Knoxville, to erect dwelling at Park City; 43x48 ft.; 2 stories.

Tenn., Knoxville.—Capt. Henry D. Tittsworth is having plans prepared by A. B. Baumann, Knoxville, for dwelling on Fifth Ave.; 12 rooms.

Tenn., Knoxville.—H. W. Curtis, Jr., has plans by A. B. Baumann, Knoxville, to erect dwelling on White Ave.; brick veneer.

Tex., Bonita.—T. C. McBride will erect residence and business building.

Tex., Bonita.—M. M. Gilbert will erect residence.

Tex., Dallas.—Miss Lizzie Gilchrist will erect residence; 16 rooms; 2 stories; frame; cost \$4550.

Tex., Dallas.—B. G. Howard will erect 6-room frame residence at 3323 Gilbert St.; cost \$3000.

Tex., Dallas.—A. Guiders will erect 6-room brick residence at 1511 Washington Ave.; cost \$3000.

Tex., Dallas.—J. E. Frank will erect 2-story 8-room frame dwelling at 4722 Worth St.; cost \$3000.

Tex., Dallas.—J. O. Crabtree will erect 10-room 2-story frame residence at 307 N. Mont Clair St.; cost \$4500.

Tex., Dallas.—N. M. Harper will erect 10 dwellings; cost \$19,450.

Tex., Dallas.—W. W. Graham will erect 2-story 14-room brick-veneer residence at 2917 Forest St.; cost \$7000.

Tex., Dallas.—W. S. Gibson will erect 2-story 10-room frame residence at 3922 Lemon St.; cost \$6000.

Tex., El Paso.—Phoenix-El Paso Building Co. will erect brick bungalow; cost \$4500.

Tex., Hereford.—D. F. Ashbrook is having plans prepared for residence.

Tex., Houston.—T. J. Donohue, Pres. of Texas Company, will erect \$25,000 residence in Courtland Addition.

Tex., Houston.—F. J. Marrett will erect 6-room dwelling; cost \$4000.

Tex., Houston Heights.—O. M. Carter will erect 2 dwellings; cost \$5300.

Tex., Houston.—Chas. E. Schaaf, Prest. of Missouri, Kansas & Texas Ry. System, St. Louis, will erect residence adjoining Park Place; 75x90 ft.; 2 stories; 5 baths; sleeping porch 16x60 ft.; also erect garage and tenant-houses, tile land at cost of \$2500, install private refrigerating plant, drill well 600 ft. deep for water supply, obtain electric current from Park Place, etc.; cost \$50,000.

Tex., Mineral Wells.—L. E. Seaman has plans by C. H. Leinbach, 1105 Southwestern Bldg., Dallas, for residence; 2 stories; steam heat; electric lights; owner will purchase materials.

Tex., San Angelo.—S. H. Jenkins has plans by C. F. Ward for residence; 1½ stories; 7 rooms; frame; 30x50 ft.; electric fixtures; cost \$3000.

Tex., Waco.—W. H. Staten is having plans prepared for residence; brick; cost about \$20,000.

Tex., Waco.—L. F. Cowan will erect \$10,000 residence.

Va., Luray.—E. K. Vertner is having plans prepared by Mims, Speake & Co., Luray, for residence; frame and stucco; 2 stories; hot-water heat.

Va., Luray.—B. F. Matman is having plans prepared by Mims, Speake & Co., Luray, for residence; frame; hot-water heat; plumbing; vacuum cleaner.

Va., Norfolk.—L. McCloud will erect brick and frame residence at Sanday and Colley Aves.; cost \$3700.

Va., Fredericksburg.—E. C. Nathan of Little Falls Farm, near Fredericksburg, is having plans prepared by P. N. Stern, Fredericksburg, for residence; 33x60 ft.; 2 stories, cellar and attic; brick; colonial style; sleeping porches; electric-light system; asbestos shingles; vacuum-vapor heat; contract let in about 6 weeks.

Va., Richmond.—Geo. Schafer will erect 2-story brick dwelling on Chamberlayne Ave.; cost \$5400.

Va., Richmond.—Davis Bros. will erect 11 dwellings. (See Apartment-houses.)

Va., Richmond.—A. E. Franklin will erect 2-story brick dwelling on Stuart Rd.; cost \$3100.

Va., Richmond.—L. E. Pollard will erect 2-story brick dwelling on 30th St.; cost \$4000.

Va., Richmond.—W. J. Wyatt will erect 2-story frame dwelling at 24th and Springfield Sts.; cost \$3600.

Va., Richmond.—W. C. Schaaf will erect 2 two-story dwellings at Harrison and Catherine Sts.; cost \$3400.

Va., Richmond.—Miss Bertie Loving will erect 2-story brick dwelling on Midlothian turnpike; cost \$4500.

Va., Richmond.—S. A. Steger will erect 2-story frame dwelling on Bacon Rd.; cost \$3300.

Va., Roanoke.—Ethel V. Weston will erect 2-story frame dwelling on Chapman Ave.; cost \$3000.

Va., Virginia Beach.—W. H. Terry has plans by Louis R. Moss for bungalow; bids opened Feb. 24 in office of architect.

W. Va., Huntington.—Susie E. Gibson will erect 2-story frame double dwelling on Dalton Ave.; cost \$3150.

W. Va., Huntington.—W. H. Hunter will erect residence.

W. Va., Parkersburg.—Dr. Milton McNellan will erect residence.

GOVERNMENT AND STATE

Fla., Live Oak.—Postoffice.—Treasury Dept., Oscar Wenderoth, Supervising Archt., Washington, D. C., receives bids until April 6 to erect postoffice; plans and specifications at office of custodian of site and from Mr. Wenderoth, as above.

La., Bogalusa.—Armory.—Company G of Louisiana State National Guard will erect armory; 2 stories; drill hall 50x100 ft.; cost \$10,000; plans by and construction in charge of J. C. Valadie, Bogalusa.

HOSPITALS, SANITARIUMS, ETC.

Fla., Quincy.—Board of Trade and others are interested in plan to organize company with capital stock of \$5000 to erect and equip hospital; Dr. R. F. Godard, Chmn., of Com.

Ga., Atlanta.—Georgia Baptist Hospital indefinitely postponed erection of buildings. (Previously noted.)

N. C., Hamlet.—James Sanatorium, Laurinburg, N. C., operated by Drs. W. D. James, Terry and Kinsman, is erecting building on Vance Ave., and will erect oth-

ers; cost of structures, \$25,000; equipment, \$15,000.

Tenn., Columbia.—Drs. McMahon are reported to erect veterinary hospital.

Tenn., Nashville.—Tuberculosis Hospital Board plans to expend \$25,000 to \$30,000 to erect addition to tuberculosis hospital.

Tex., Austin.—Travis County Commrs. are considering calling election Mch. 22 on \$150,000 bonds to erect hospital.

Va., Pulaski.—Pulaski Hospital Assn., Allen T. Eskridge, Secy., plans to erect addition to hospital; 1 story; frame; accommodations for about 12 patients; cost about \$3000; M. P. Landis, Oscar Laughon and Neal Bunts, Building Com.

HOTELS

Ky., Winchester.—C. C. Smalling is reported promoting erection of hotel; 50 rooms; gas, water and probably electricity.

Tenn., Trezevant.—B. H. Hillsman is reported interested in erection of hotel.

Tex., Galveston.—J. C. League has plans by A. J. Bellis, Galveston, for hotel and store building at 21st and Church Sts.; 3 stories; tapestry brick; stone trimmings; metal awning suspended by chains; 60x55 ft.; stores on lower floor; cost \$40,000.

W. Va., Huntington.—Hotel Frederick has plans by Verus T. Ritter, Huntington, for improvements to hotel, including construction of entrance on 10th St., with lobby extending to and connecting with present 4th Ave. lobby; change location of elevators, glass-roofed structure connecting office and hotel lobbies; ordinary construction; composition roof; cost \$4500.

MISCELLANEOUS

Fla., West Palm Beach.—Clubhouse.—Entre Nous Club plans to erect clubhouse on lake front.

Ga., Chatsworth.—Stable.—T. H. Moreland and M. L. Roberts will erect livery stable.

Md., Baltimore.—Stadium.—Henry Pollock, 4204 Eastern Ave., is interested in contemplated erection of athletic stadium at Highlandtown; about 375 ft. square; seating capacity 20,000; minimum cost \$40,000.

Md., Belmar.—Geo. Herbst will probably let contract to Henry Kolb, Belmar, to erect building; 32x40 ft.; concrete; slate roof; hot-water heat; electric lighting; cost \$4400.

Mo., St. Charles.—Barn, etc.—Sol Grebengeiser is reported to erect barn, etc. (See Dwellings.)

Mo., St. Louis.—Club and Office Building.—Woman's Council of St. Louis, Mrs. Wm. H. Utter, Prest., 4463 Forest Park Blvd., plans to erect club and office building.

N. C., Greensboro.—Barns, etc.—Caesar Cone will establish dairy farm at W. D. Wharton Farm; plans include erection of dairy barns and other structures, including principal barn to cost \$20,000.

N. C., Raleigh.—Clubhouse.—Woman's Club of Raleigh will erect clubhouse; auditorium to seat 400; cost \$29,000; plans in progress; Mrs. W. S. Primrose, Mrs. T. Palmer Jermain, Mrs. T. P. Harrison and Dr. E. Dixon-Carroll, Com.

Tenn., Clinton.—Fair.—Anderson County Fair Assn. acquired old fair grounds; will erect new buildings, improve race track, etc.

RAILWAY STATIONS, SHEDS, ETC.

N. C., Winston-Salem.—Southern Ry. Co., W. H. Wells, Ch. Engr. Constr., Washington, D. C., and Norfolk & Western Ry., J. E. Crawford, Ch. Engr., Roanoke, Va., are reported to erect union passenger station.

Tex., Coleman.—Gulf, Colorado & Santa Fe Ry., F. Merritt, Ch. Engr., Galveston, Tex., is reported to erect station.

Va., Richmond.—Richmond, Fredericksburg & Potomac Ry., W. W. White, Asst. to Prest., is reported to erect West End station on Hermitage Golf Club site.

W. Va., Huntington.—American Ry. Co., J. J. Sullivan, Prest., Wetherspoon Bldg., Philadelphia, Pa., is reported to erect building at 8th St. and 4th Ave. for traction offices and waiting-room; cost at least \$25,000.

SCHOOLS

Ala., Huntsville.—City voted \$40,000 bonds to erect high school. Address The Mayor. (Lately noted.)

Ark., Huttig.—School Board of Consolidated Dist. No. 60 voted to issue \$12,000 to erect 8-room high school; heating plant in basement; bids opened in 30 to 60 days; cost \$10,000 without mechanical equipment; W. H. Moon, Secy. of School Board, may be addressed.

Ark., Hampton.—City voted \$8000 bonds to erect school. Address The Mayor. (Previously noted to erect school to replace burned structure.)

D. C., Washington.—Chief Clerk, Board School Commrs., 427 District Bldg., receives bids until March 9, inclusive, for heating and ventilating system for Western High Municipal Archt., District Bldg. (Previously noted.)

D. C., Washington.—Catholic University of America returned unopened bids for chemical laboratory; date of receiving new bids not decided; Murphy & Olmsted, Archts., 1113 H St. N. W., Washington. (Building lately noted to cost about \$135,000.)

Fla., Clermont.—Board of Public Instruction of Lake County, Tavares, Fla., receives bids until Mch. 8 to erect brick school; plans and specifications at office of W. H. Carr, Archt., Leesburg, Fla.; L. M. Johnson, Chmn. of Board.

Fla., Felsmere.—Special Tax Dist. No. 14 voted \$25,000 bonds to erect high school; Geo. A. Saeger, Chmn., Board of Public Instruction, Ankona, Fla. (Lately noted.)

Fla., Grand Crossing.—See Jacksonville.

Fla., Highway.—See Jacksonville.

Fla., Jacksonville.—Special School Tax Dist. votes Mch. 16 on \$1,000,000 bonds for following schools: Erect 8-room school, Panama, cost \$60,000; 4-room \$10,000 school between Grand Crossing and Highway; 4-room \$10,000 school, Ortega; 8-room \$60,000 school, La Villa; 18-room \$100,000 school, Riverside; 4-room \$10,000 school, Grand Crossing; 12-room \$100,000 school between W. Riverside and Riverside; 8-room \$60,000 school, New Springfield; 4-room \$10,000 school, Murray Hill; 4-room \$10,000 school between W. Riverside and St. John's Park; 16-room \$90,000 school, S. Jacksonville; \$5000 building, W. Lewisville; \$10,000 building, W. Jacksonville; \$15,000 building, Oakland; \$15,000 building (colored), La Villa; \$10,000 building (colored), Mason Park; 3 schools (colored), Stanton, \$45,000; \$10,000 building (colored), Rock Road; \$5000 building (colored), S. Jacksonville; complete Springfield school, \$60,000; 4-room addition, Brentwood, \$10,000; complete W. Springfield school, \$50,000; complete W. Riverside school, \$50,000; 8-room addition Northeast Springfield school, \$50,000; 8-room addition Highway school, \$50,000; complete E. Jacksonville school, \$65,000; addition Fairfield school, \$10,000; remodel Central grammar school, \$10,000; F. A. Hathaway, Supt. Public Instruction, Jacksonville. (Lately noted.)

Fla., Ortega.—See Jacksonville.

Fla., Panama.—See Jacksonville.

Fla., South Jacksonville.—See Jacksonville.

Fla., West Jacksonville.—See Jacksonville.

Fla., Wimauna.—Superintendent of Public Instruction of Hillsboro county, Tampa, Fla., receives bids until Mch. 20 to erect school; plans and specifications at office of said superintendent; Wm. Schneider, Chmn.; Marshall Moore, Secy., Tampa; Willis R. Biggers, Archt., Tampa. (Lately noted.)

Ga., Cedartown.—City votes Mch. 20 on \$50,000 bonds to erect high school; John K. Davis, W. W. Mundy and others, Com. (Lately noted.)

Ga., Hawkinsville.—City voted \$15,000 bonds to improve, enlarge and erect schools; G. W. Jordan, Mayor. (Lately noted.)

Ga., Rome.—Shorter College is reported to erect \$40,000 dormitory.

Ga., Savannah.—Chatham County Board of Education will erect school at Anderson St. and Waters Ave.; about 16 rooms; cost \$40,000 to \$50,000; address Judge Samuel B. Adams, care of Chatham County Board of Education.

Ky., Ludlow.—Board of Education considers issuing \$30,000 bonds to erect school.

Miss., Greenville.—City has plans by H. H. Hunt, Chattanooga, Tenn., for school; ordinary construction; composition roof; steam heat; electric light from city plant; cost \$55,000; bids opened Mch. 15; J. E. Lepert, Chmn., may be addressed. (Lately noted.)

Miss., Senatobia.—Trustees of Tate County Agricultural School are having plans prepared by Ben Price, 518-19 Empire Bldg., Birmingham, Ala., for 2-story brick academic building with pitch and gravel roof and 2-story-and-basement frame dormitory with composition shingle roof; low-pressure steam heat; ordinary construction; bids opened Mch. 22; lately noted. (See Machinery Wanted.)

Mo., Hume.—City plans to vote on bonds to erect \$15,000 school. Address The Mayor.

Mo., Smithton.—Smithton School Dist. voted \$6000 bonds to be supplemented by \$3000 now available to erect school to replace burned structure. Address Dist. School Trustees.

N. C., Lincolnton.—Town votes Mch. 16 on proposition to borrow \$10,000 to erect addition to school and pay debt. Address School Trustees.

N. C., Statesville.—School Board is having plans prepared by Wheeler & Stern, 1901½ S. Boulevard, Charlotte, N. C., for \$30,000 school; 70x90 ft.; ordinary construction; tin roof; steam or hot-air heat; bids opened in March. Address F. A. Sherrill, Chmn. Building Com. (Lately noted.)

Okla., Okmulgee.—Okmulgee county plans bond election to erect high school. Address County Commrs.

S. C., Rock Hill.—Winthrop College is having plans prepared by Hook & Rogers, Charlotte, N. C., for \$60,000 gymnasium.

Tenn., Chattanooga.—Baylor University School will erect 3 buildings at foot of Signal Mountain; \$30,000 main structure; \$12,000 structure for master's house and dining hall and \$12,000 gymnasium; construction under supervision of Henry O'Brien; subcontracts to be let locally; W. T. Downing, Archt., Atlanta. (Previously noted.)

Tenn., Grandview.—American Missionary Society will rebuild boys' dormitory at Grandview Normal College; ordinary construction; shingle roof; steam heat; cost about \$8000. Address H. Paul Douglass, 237 Fourth Ave., New York. (Lately noted damaged by fire.)

Tex., Brownwood.—City votes Mch. 23 on \$7000 bonds to erect additional school in N. Brownwood. Address The Mayor.

Tex., Port Lavaca.—School Trustees, Dist. No. 13, receive bids at office of Port Lavaca Wave until March 6 to erect school and out-buildings; plans and specifications at office of Wave.

Tex., Mission.—Mission Ind. School Dist. voted \$23,000 bonds to erect school. Address Dist. School Trustees.

Tex., San Antonio.—Bids opened Feb. 25 by Paul H. Scholtz, Business Agent of San Antonio School Board, for erection of industrial building at Douglass School; Leo M. Diemann, Archt., School Archt., San Antonio.

Tex., Big Wells.—Common School Dist. No. 3, Summit county, has plans by Adams & Adams, San Antonio, Tex., for school; 10 rooms, auditorium, etc.; mill and brick construction; gravel roof; individual heaters; cost \$17,000 without mechanical equipment; bids opened Feb. 25; W. L. Moore, Secy. School Trustees, may be addressed. (Previously noted.)

Tex., Cooleage.—Bids received until Feb. 25 by School Board to erect 2-story-and-basement brick school; plans and specifications at office of C. H. Leinbach, Archt., Dallas, and Secy. of School Board, Cooleage.

Tex., San Antonio.—Common School Dist. No. 18, Bexar county, has plans by Adams & Adams, San Antonio, for school; 8 rooms, auditorium, etc.; fireproof; cost \$30,000 without mechanical equipment; bids opened Feb. 23; J. M. Vance, Secy. School Trustees, may be addressed.

Tex., Whitewright.—City voted \$4500 bonds to finish school. Address The Mayor.

Va., Charlottesville.—University of Virginia, Dr. Wm. A. Lambeth, Supt. Grounds and Buildings, will erect athletic clubhouse; ordinary construction; tile roof; direct steam heat; electric light from university plant; cost \$23,000; Ferguson, Calrow & Taylor, Archts., Royster Bldg., Norfolk. (See Machinery Wanted.)

W. Va., Fairmont.—State Board of Control, James S. Lakin, Prest., Charleston, W. Va., opens bids Mch. 15 to erect normal-school building; 85x250 ft.; 2 stories and basement; ordinary construction; slag roof; cost about \$120,000; single-fan system of indirect-direct steam heat, \$10,000; Paul A. Davis, Archt., 1713 Sansom St., Philadelphia. (Lately noted.)

W. Va., Keyser.—Keyser School Dist. votes March 10 on \$25,000 bonds to erect school at Piedmont and Mineral Sts. Address Dist. School Trustees.

STORES

Ala., Birmingham.—Lee J. Beyer will expend \$3000 to repair stone building at 1233 15th Ave.; cost \$3000.

Ark., Harrison.—Dr. J. K. Johnson will erect building to replace structure noted damaged by fire at loss of \$7000.

Ark., Conway.—Sam Frauenthal, Little Rock, contemplates rebuilding structure lately noted burned; is considering plans by Chas. L. Thompson, Archt., Little Rock.

Ark., Marianna.—B. F. Latta will erect 3 stores; 22x60, 21x60 and 20x60 ft.; asphalt roof; electric lighting; cost \$3500 to \$4000. (Lately noted.)

Ark., Walnut Ridge.—Isaac Less will build store and office buildings; one 75x50 ft., 1 story; one 55x50 ft., 2 stories; fireproof; brick; electric lighting; cost about \$10,000; architect not selected; bids about May. (See Machinery Wanted.)

Fla., Fort Meade.—Wilson Trading Co. will erect building; 50x90 ft.; brick; cost \$6000; let contract soon. Address W. S. Wilson, Fort Meade. (Lately noted.)

Fla., Jacksonville.—F. Maycomber will erect frame building at Charles and Rosselle Sts.; cost \$3000.

Fla., Jacksonville.—R. Kloeppel is erecting store and apartment building on E. Forsyth St.; brick; foundation begun; 2 or more stories.

Fla., Tampa.—S. Pardo is having plans prepared by Fred J. James, Tampa, for store and apartment building on 9th Ave. near 15th St.; 80x35 ft.; 2 stories; mill construction; brick; Barrett specification roofing; electric lights.

Ga., Atlanta.—Ben J. Massell will erect business building on Ivy St.; 3 stories and basement; lower floor for stores; upper floor, apartments; cost \$12,500.

Md., Baltimore.—Jacob Millinson is having plans prepared by Louis Levi, 1408 Munsey Bldg., Baltimore, for store on E. New Market; 2 stories; 45x57 ft.; brick; slag roof; steam heat; electric light; cost about \$3500; plans ready about Feb. 20; private construction.

Miss., Meridian.—A. H. Niolon will erect business building at 8th St. and 23d Ave.; 3 stories; brick.

Mo., Kansas City.—J. C. Gates, 915 Baltimore St., has plans by A. B. Anderson, 818 New York Life Bldg., Kansas City, for store building at Main and 20th Sts.; 143x133 ft.; ordinary construction; gravel roof; electricity; cost \$12,500 to \$15,000; R. T. Whipple, Agt., may be addressed.

Okla., Alhambra.—J. W. Elkins is erecting cement-stone business building; 36x50 ft.

Okla., Henryetta.—B. A. Jackson and Chas. Blaine will erect 1-story business building to be occupied by Catron & Faulkner; frontage 75 ft.

Okla., Lehigh.—A. F. and A. M. are reported to erect business and lodge building. (See Association and Fraternal.)

Okla., McAlester.—Griffin Grocery Co. is reported to erect building or addition to present structure.

Okla., McAlester.—W. G. Welmer is reported considering erection of 8-story business and office building.

Okla., Tulsa.—C. B. Lynch is reported to erect business building at 3d St. and Cincinnati Ave.; probably 3 stories; cost \$50,000.

Okla., Tulsa.—F. C. Giddings is reported to erect 2-story brick business block.

Okla., Tulsa.—Ben and Sam Vance will erect 3-story business building on E. 3d St.

Okla., Tulsa.—C. A. Sanderson and E. A. Ross are reported contemplating erection of 2-story building on E. 3d St.

Okla., Tulsa.—John O. Mitchell will erect 3-story building on S. Cincinnati St.

Okla., Tulsa.—R. F. Morley will erect three-story brick building.

Okla., Tulsa.—C. P. Alexander contemplates erecting 4-story business building at 5th and Main Sts.

Okla., Woodward.—B. W. Key, Galveston, Tex., is erecting 1-story brick business building.

Okla., Woodward.—George Brophy will erect business building.

Okla., Woodward.—Peter Martinson plans to erect business building.

S. C., Olanita.—W. Willis will erect 3 brick stores.

Tenn., Nashville.—Sixth Avenue Property Co. will erect 3-story business building.

Tex., Abilene.—Dee Oldham will erect 2-story brick building.

Tex., Beaumont.—Josey-Miller Grain Co. and J. S. Jordan acquired Park Bank building and will remodel; erect 2 additional stories, entrance, etc.; also install steam-heating plant, electric elevator; cost \$25,000; lower floor for stores; upper floors, offices.

Tex., Bonita.—T. C. McBride will erect residence and business building.

Tex., Dallas.—John S. Murphy will erect tile store at 1318 N. Peak St.; cost \$3000.

Tex., Dallas.—Levi Investment Co. will expend \$3250 for alterations to building at 1301 Commerce St.

Tex., Fort Worth.—J. N. Brooker will erect business building to replace structure lately burned at loss of about \$15,000.

Tex., Galveston.—J. C. League has plans for store and hotel building. (See Hotels.)

Tex., Jewett.—F. P. Harrison will erect 4 buildings to replace structures lately noted damaged by fire; 25x100 ft.; ordinary construction; composition or gravel roof; cost \$15,000.

Tex., Mumford.—J. R. Collier will erect business building; brick; glass front.

Tex., Silsbee.—J. W. Terral is reported to erect brick building.

Va., Lexington.—Rockbridge Building and Loan Assn. is reported to erect brick business building on Nelson St.

Va., Norfolk.—Jas. W. Lee, Norfolk, prepared plans to erect store building at Church and Freemason Sts.; 2 stories; 29x102 ft.; brick; stone trimming; bids opened Feb. 25.

Va., Norfolk.—Seaboard Supply Co., Geo. G. Lee, V.-P., purchased building at 201-5 Water St. and will expend about \$5000 to remodel.

Va., Norfolk.—Dr. A. R. Chalmers will erect 2-story brick store and apartment building at Queen and Pulaski Sts.; 2 stores on lower floor; cost \$7600.

Va., Norfolk.—J. G. Trafton will erect 2-story brick building at 716 Armistead Bridge Rd.; cost \$5600.

W. Va., Grafton.—Y. M. C. A. is considering erection of business and association building. (See Association and Fraternal.)

THEATERS

Ala., Gadsden.—R. B. Kyle is reported to rebuild Belle Theater; concrete floor; machine and films to be installed in metal

wall; leased by W. B. Wood, Gadsden. (Reported burned at loss of \$7500 to \$8000.)

Ala., Clanton.—W. Wright has plans by R. C. Allen, Athens, Ala., for moving-picture theater on 2d Ave.; galvanized roofing; cost \$7000. (Lately noted.)

Fla., Tampa.—Victor Grimmer and Edgar Ferdon, 221-222 American National Bank Bldg., Tampa, are preparing plans for theater; 70x145 ft.; reinforced concrete construction; 2 stores and lobby on first floor; fireproof; terra-cotta front; marble wainscoting; metal fire doors; fire curtain; stage 60x55 ft.; seating capacity 1200; tile floors in lobby; composition floor in theater proper; gas heating; copper marquis; cost \$50,000 to \$60,000.

Ky., Louisville.—Phoenix Amusement Co. was inceptd. with \$40,000 capital stock; M. Switow, Prest.; Jas. H. Button, V.-P., both of Louisville; Louis Zahler, Secy.-Treas., Chicago; acquired Garrett D. Wilson building on Main St. and will convert into theater; cost about \$35,000.

Okla., Weatherford.—Fred E. Sims and Hugh Cooper will erect 2-story brick theater.

WAREHOUSES

Ala., Bay Minette.—G. W. Burns & Son are reported as probably to erect brick or concrete structure to replace structure noted damaged by fire.

Ga., Macon.—Macon-Atlantic Navigation Co. will erect wharf warehouse.

Md., Baltimore.—Baltimore Plumbing Supply Co., Isaac Frenkel, Prest., 1001 W. Baltimore St., will have plans for warehouse on N. Central Ave. revised by Callis & Callis, 2055 Kennedy Ave. (Lately noted.)

Tenn., Memphis.—Pidgeon-Thomas Iron Co. has plans by G. M. Shaw, Memphis, for warehouse; 500 ft. square; brick; reinforced concrete and steel.

ing; 2 stories and basement; 46x18x20x70 ft.; mill construction; tin roof; brick; capacity of 2000 bales cotton; cost \$10,000; G. Lloyd Preacher, Archt., Augusta; address architect. (Pope & Fleming lately noted to erect structure.)

Mo., St. Louis.—Chemical Building Co. let contract to Murch Bros., Railway Exchange Bldg., St. Louis, to alter building at 300-18 N. 8th St.; cost \$5000; tile floor; marble wainscoting; mahogany fixtures.

Mo., St. Louis.—Cass Avenue Bank let contract to Booth & Welsh, St. Louis, to erect bank building at 15th St. and Cass Ave.; 42x70 ft.; 1 story; banking room 22 ft. high; brick; terra-cotta trimmings; 2 Missouri red granite columns at either side of entrance; fireproof; safe deposit and bank vaults; cost \$30,000; Kennerly & Stiegemeier, Archts.; Wm. Wedemeyer, Associate Archt., St. Louis. (Previously noted.)

Okla., Atoka.—Masonic Temple Assn. let contract to erect store, office and lodge building. (See Association and Fraternal.)

CHURCHES

Ark., Hazen.—St. Cyril Methodius Catholic Church let contract at \$2500 to Wm. Fells, Pine Bluff, Ark., to construct foundation for building near Hazen; semi-fireproof; possibly tile roof; general contract to be let about Apr. 1; cost \$10,000 without mechanical equipment; Frank M. Blaisdell, Archt., Bankers' Trust Bldg., Little Rock. (Previously noted.)

Ga., Columbus.—Sixth Avenue Baptist Church let contract to McMurray & Farley, Columbus, to erect building; F. Roy Duncan, Archt., Exchange Bldg., Columbus.

Okla., Altus.—Baptist Church let contract to Taylor Bros., Wichita Falls, Tex., to erect building.

Va., Norfolk.—Bank Street Baptist Church let contract to C. F. Overmeyer, Norfolk, to erect Sunday-school building and alter church structure; total cost \$15,000; Rosell Edward Mitchell and F. Nelson Wilcox, Archts., Norfolk.

CITY AND COUNTY

Ky., Lexington.—Bins.—Fayette county let contract at \$5800 to R. B. Hayes, Lexington, to erect road-metal bins of concrete at western terminus of Short St.

Tex., Colorado.—Jail.—Mitchell County Comms. let contract to Southern Structural Steel Co., San Antonio, to erect jail; 32x34 ft.; fireproof; Barrett roofing; cost \$8000. (Lately noted.)

Tex., Madisonville.—Jail.—Madison County Comms. have plans by and let contract to

Southern Structural Steel Co., San Antonio, Tex., to erect jail; 26x33 ft.; fireproof; Barrett specification roofing; cost \$8000. (Lately noted.)

DWELLINGS

Ark., Little Rock.—Mrs. Ada Sullivan, 2114 Spring St., let contract to Jas. H. Brewer, Route 2, Little Rock, to erect dwelling; 34x36 ft.; 2 stories; shingle roof; natural-gas heating; cost \$3500; electric lights, \$150. (Lately noted.)

Fla., Leesburg.—J. O. Hetch let contract to McIver & Mackay, Ocala, Fla., to erect 2-story brick and stucco residence; tile roof; light from city plant; cost \$7000; Geo. Mackay, Archt., Ocala, Fla.

Ga., Columbus.—Edwin Booth let contract to L. E. Wooten Co., Columbus, to erect residence; 2 stories; frame; bungalow type; furnace heat; rift pine floors; metal roof; cost about \$4000; Chas. F. Hickman, Archt., Exchange Bldg., Columbus.

Ga., Columbus.—J. Edgar Chancellor let contract to L. E. Wooten Co., Columbus, to erect residence; 2 stories; frame; bungalow type; furnace heat; rift pine floors; tiled bath; metal roof cost \$4000; Chas. F. Hickman, Archt., Exchange Bldg., Columbus.

Ga., Savannah.—Carl Espy has plans by J. de Bruyn Kops, 47 Drayton St., Savannah, to remodel and enlarge residence; 50x30 ft.; brick and stucco; will replaster and redecorate, panel new dining-room and library, install hardwood floors, 2 baths, etc.; tin roof; steam heat; electric lights from city plant; day labor; cost \$15,000; subcontractors are Electric Agency, Savannah; S. D. Mizell, Self-Winding Clock Co., De Veau Telephone Co., A. S. Bacon & Sons, Savannah.

La., New Orleans.—Dixie Homestead Assn. let contract to G. E. and E. E. Reimann Co., Ltd., New Orleans, to erect 2-story-and-basement residence; cost \$5681.

La., New Orleans.—Mrs. Maria Caldera let contract to Paul Lagasse, New Orleans, to erect 2-story frame residence; cost \$3250.

La., New Orleans.—Mr. Grace let contract to J. A. Haase, New Orleans, to erect 2-story frame residence; slate roof.

Md., Cumberland.—Roy Crum let contract to Thompson & Myers, Cumberland, to erect 2-story brick residence on E. 2d St.; Kepner & Smith, Archts., Cumberland.

Md., Baltimore.—N. A. Cox has plans by and let contract to Henry Smith, Harford Rd., Baltimore, to erect dwelling at Duval and Garrison Aves.; 2½ stories; 32x42 ft.; frame; slate roof; hot-water heat; cost \$6500.

Md., Havre de Grace.—J. P. Richards has plans prepared by Walter M. Gieske, 65 Gunther Bldg., Baltimore, and let contract to Willard E. Harn Co., 213 N. Calvert St., Baltimore, to erect dwelling; 2½ stories; stone, stucco and frame; tile roof; hot-water heat; electric power plant; cost \$36,000. (Lately noted.)

Md., Roland Park.—Leslie H. Peard has plans by O. B. Wight, 1408 Munsey Bldg., Baltimore, and let contract to C. W. Littleton & Son, 433 Liberty Heights Ave., Baltimore, to erect dwelling; frame; shingle roof; hot-water heat; electric light; cost about \$7000. (Previously noted.)

Mo., St. Louis.—M. W. Rose let contract to H. Dilschneider, St. Louis, to erect 2-story dwelling at 3633 Blaine St.; cost \$4200.

Tex., Fort Worth.—Mrs. J. L. Busby let contract to S. A. Tomlinson, Stop 6, Fort Worth-Dallas Interurban, Fort Worth, to erect residence; 2 stories and basement; brick veneer; stone trimmings; asbestos roofing; cost about \$6000; Frank J. Singleton, Archt., 508 American National Bank Bldg., Fort Worth.

Tex., Midlothian.—T. M. Dees let contract to G. W. McElroy, Midlothian, to erect residence; 9 rooms; 2 stories.

Tex., Plainview.—C. S. Williams let contract to J. B. Maxey to erect 7-room stucco residence; cost about \$4000.

Tex., Plainview.—R. A. Long let contract to Harrison-Kerr Co., Plainview, to erect dwelling; 40x52 ft.; frame; shingle roof; cost \$3000; L. A. Kerr, Archt., Plainview; materials bought. (Lately noted.)

Va., Norfolk.—J. G. Trafton let contract to W. I. McCoy, Norfolk, to erect residence on Armistead Bridge Rd.; cost \$5500.

GOVERNMENT AND STATE

Va., Arlington.—Memorial.—Arlington Memorial Amphitheater Com., Col. Wm. W. Harts, executive and disbursing officer, 1729 New York Ave., Washington, D. C., let contract at \$319,000 to George A. Fuller Co., Munsey Bldg., Washington, and Fuller Bldg., New York, to erect memorial amphitheater,

administration building and chapel; 230x230 ft.; Danby (Vt.) marble; fireproof; tile and cement roofing; low-pressure (2-pipe) steam-heating plant; electric lighting; dumbwaiter and ash lift; open amphitheater with seating capacity approximately 5000, surrounded by colonnade with seating capacity on top for 3000; following subcontracts are let: Electric work, Capital Electric Co., Washington, D. C.; exterior marble, Vermont Marble Co., Proctor, Vt.; steel framing, John Eichleay, Jr., Co., Pittsburgh, Pa.; fireproofing, National Fireproofing Co., Pittsburgh, Pa.; Carrere & Hastings, Architects, 225 5th Ave., New York; contractor may be addressed. (Lately noted under Washington, D. C.)

HOSPITALS, SANITARIUMS, ETC.

Tex., Taylor.—Drs. Wedemeyer and Thomas let contract at \$12,000 to G. B. Breager, Taylor, to erect sanitarium, and at \$2800 to Frank Kurschback, Taylor, for plumbing and heating; plans by Geo. Burnett, 212 Cameron Bldg., Waco, call for 3-story structure; brick and frame; 328x87 ft. (Lately noted.)

HOTELS

Ark., Heber Springs.—Heber Springs Hotel Co., B. A. Burch, Secy.-Treas., let contract to W. E. Swink, St. Louis, Mo., to erect lately-noted hotel; 100 rooms; cost \$40,000 without mechanical equipment; Clyde A. Ferrell, Archt., Little Rock, Ark. (See Machinery Wanted.)

MISCELLANEOUS

Ga., Vidalia.—Restaurant.—Thos. Smith, Dublin, Ga., let contract to J. C. Adams, Vidalia, to erect brick restaurant building.

Tenn., Nashville.—Clubhouse.—Nashville Golf and Country Club let contract to J. W. Patrick & Co., Nashville, to erect clubhouse at Belle Meade; colonial style; wood; stone steps and foundation; Tennessee stone trimmings; cost about \$50,000; Edw. Dougherty, Archt., Candler Bldg., Atlanta, Ga.

Va., Fredericksburg.—Barn, etc.—Lee J. Graves let contract to A. Sullivan to erect cattle barn 60x90 ft. and two 100-ton silos.

SCHOOLS

Ala., Spring Hill.—Spring Hill College, Rev. Father Cummings, Pres., let contract to Jefferson Constr. Co., New Orleans, to erect dormitory; 36 rooms; steam heat; electric lights; steel water tank under roof with capacity of 3500 gal.

Ky., Louisville.—Geo. H. Rommel Co., Louisville, general contractor to erect Emmett Field School, let following subcontracts: Breeze Bros. Co., roofing; Thos. A. Brocar, painting; J. E. Gray, plumbing; H. S. Wood Co., electric work; Pyne Co., steel and iron; Neal Electric Co., vacuum cleaner; all contractors of Louisville; plans by J. Earl Henry, Louisville, call for structure of 8 rooms, gymnasium, library, etc.; composition or Johns-Manville roofing; split system of heating; cost \$65,000 exclusive of mechanical equipment. (Previously noted.)

La., Fenton.—Jefferson Parish School Board, W. P. Arnett, Secy.-Treas., Jennings, La., let contract to Geo. D. Price, Lake Charles, La., to erect school; 6 rooms; 40x55 ft.; frame joists; steel beams; Barrett specification or asbestos shingle roof; cost about \$7000; plumbing and rolling partitions under separate contracts; A. H. Humphrey, Archt., Bloch Bldg., Lake Charles, La. (Lately noted.)

Md., Baltimore.—St. Mary's Industrial School, Wilkens and Canton Aves., has plans by Hugh I. Kavanagh, 236 E. Eager St., Baltimore, for improvements to main building; fireproof main hall and stairways, metal ceilings, electric-light fixtures; cost \$15,000; Singer-Pentz Co., contractor, 600 Equitable Bldg., Baltimore.

STORES

Ark., Glenwood.—W. A. Johnson let contract to Morris Construction Co., Glenwood, to erect business building; 25x60 ft.; 1 story; brick; concrete foundation; pitch and gravel roof; completion by May 15.

Ark., Little Rock.—Jas. Brizzolara, 123 W. 2d St., let contract to Thalman & Reid, Little Rock, to remodel store building at 417 Main St., to be occupied by commercial department and cashier of Little Rock Ry. & Electric Co.; mill construction; tin roof; steam (city) heat to cost \$400; subcontracts about \$3000; cost without mechanical equipment \$5000; Chas. L. Thompson, Archt., Southern Trust Bldg., Little Rock. (Lately noted.)

Fla., St. Augustine.—W. Leonard let contract to erect store and apartment building on Hypolita St.; cost about \$2500; frame; 30x35 ft.; asbestos shingle roof.

Ky., Louisville.—B. Bernheim let contract to A. Marcum, Louisville, to erect business building on 4th St.; 4 stories; 57x46 ft.; fireproof; passenger and freight elevators; cost about \$100,000; Joseph & Joseph, Architects, Louisville.

La., Thibodaux.—Musso Bros. are reported to have plans by and let contract to Jo Robichaux, Thibodaux, to erect structure to replace burned structure.

Miss., Gulfport.—C. B. Gates let contract to L. L. Chevalley, Gulfport, to erect building on 27th Ave.; one story; brick and concrete; steel windows; iron-covered doors; concrete floor; fireproof.

Miss., Richton.—D. Danziger let contract to E. C. Collins, Richton, to erect business building; brick; 30x70 ft.

Mo., Independence.—Jas. V. and G. H. Compton let contract to erect store building to replace structure lately noted burned at 212-220 W. Maple Ave.; 60x90 ft.; brick and frame; gravel roof; cost \$4000.

Okla., Atoka.—Masonic Temple Assn. let contract to erect store, lodge and office building. (See Association and Fraternal.)

Tenn., Knoxville.—J. E. Carty let contract to McMurray & LaRue, Knoxville, to erect store and office building on S. Central St. and Vine Ave.; 2 stories; reinforced concrete foundation to support 4 additional stories; pressed brick; 103x51 ft.; portion of structure for packing plant; \$10,000 worth of equipment will be installed; total cost \$22,000; completion by July 1.

Tex., Beaumont.—Frank Selvert let contract to Herman Weber, Beaumont, to erect 1-story brick business building; cost about \$6000.

Tex., Brownsville.—Macedonia J. Garcia let contract to erect addition to business building; 50x60 ft.

Tex., El Paso.—Hymon Krupp let contract to V. E. Ware, El Paso, to erect building; brick; 30x134 ft.; lower floor for stores; upper floor to contain 24 rooms; cost \$10,000.

Tex., Houston.—Hugh Hamilton let contract to American Construction Co., Houston, to erect building at Franklin and Washington Sts.; 2 stories and basement; reinforced concrete; 60,000 sq. ft. floor space.

Tex., Houston.—R. E. Burt let contract to F. J. Marrett, Houston, to repair 2-story brick business building; cost \$17,000.

Tex., Mabank.—W. H. Gossett and W. E. Knight let contract to W. O. England & Son, Athens, Tex., to erect 2-story structure 25x80 ft. and three 1-story structures 25x80 ft.; lower floors for stores; upper floors, lodgerooms; brick; metal ceilings; composition, felt, pitch and gravel roofs; stores; cement walks; cost \$3000 without mechanical equipment; W. H. Gossett, Archt., Mabank. Address contractors. (Lately noted.)

Tex., Terrell.—Dr. T. P. Davis let contract to O. D. Jones, Terrell, to erect brick building to cost about \$5500.

Tex., Terrell.—Mrs. Frank Martin and estate of Miss Kate Grinnan let contract to Zink & Laroe, Terrell, to erect 2 brick business buildings; cost about \$3000.

Va., Norfolk.—Higgins Land Co., care of Neff & Thompson, Norfolk, will erect 7 stores on Granby St.; 181x263 ft.; 19 ft. high; 1 story, with provision for 2 additional stories; fireproof; tar and gravel roof; stoves; concrete sidewalks; cost \$18,000; R. R. Richardson & Co., National Bank of Commerce Bldg., Norfolk, contractors; Neff & Thompson, Architects, Norfolk; address R. R. Richardson & Co. (Lately noted.)

W. Va., Edray.—J. E. Barlow has plans by and let contract to R. S. Jordan, Marlinton, W. Va., to rebuild store building; 22x60 ft.; mill construction; metal roof; cost \$3000; address Mr. Barlow. (Lately noted burned.)

THEATERS

Okla., Cushing.—J. G. Street and H. W. McCall let contract to P. F. Gross, Cushing, to remodel building for moving-picture theater; 30x118 ft.; electric fixtures; cost \$5000; Maurice Jayce & Steart & Wilderson, Asso. Architects, 503 American Bank Bldg., Oklahoma City.

Tex., Fort Worth.—Morris & Wyler let contract to Echols Bros. to erect theater; cost about \$3000; Frank J. Singleton, Archt., American National Bank Bldg., Fort Worth.

W. Va., Wheeling.—Rex Amusement Co. let contract to R. R. Kitchen Co., Wheeling, to erect concrete and brick theater; 68x128 ft.; 2 stories on first floor; copper and glass marquee over front entrance 20x30 ft.; marble staircases; main auditorium 66 ft. wide and 40 ft. high; seating capacity 1200; concrete floors; cost about \$40,000.

WAREHOUSES

Fla., Plant City.—Norwood & Bugg let contract to H. A. Chapman, Plant City, to erect 1-story brick warehouse; 30x70 ft.; cost \$2300.

Ga., Atlanta.—Central Real Estate & Warehouse Co. let contract to erect warehouse and office building. (See Bank and Office.)

Ga., Rome.—C. W. Smith & Son, Cedar-town, Ga., let contract to J. F. DuPre &

Son Co., Rome, to erect warehouse; 75x220 ft.; ordinary construction; construction to begin Mch. 1. (Lately noted.)

Md., Baltimore.—Baltimore Storage & Moving Co. has plans by Wyatt & Nolting, 1015 Keyser Bldg., Baltimore, and let contract to Burns & Russell Co., 1103-4 American Bldg., Baltimore, to erect warehouse and stable on Bruce St. near Edmondson Ave.; 63x100 ft.; fireproof; brick; slag roof; cost \$6000. (Lately noted.)

RAILROAD CONSTRUCTION

RAILWAYS

Ark., Buffalo.—C. T. Updegraff of Helena, Ark., and Philip DeWolf of Bristol, R. I., are reported investigating between Buffalo and Yellville, Ark., preliminary to the contemplated construction of an electric railway about 14 mi. long to connect those points.

Ark., Cow Mound.—Missouri & North Arkansas R. R. Co. will build only about 600 ft. of the proposed railroad spur for Argo, Trice & Co., who will do the grading. E. E. Washburn, Judsonia, Ark., is Ch. Engr. for the lumber firm.

Ark., Harrisburg.—Concerning the proposition to build a lumber railroad from Harrisburg 10 mi. southwest, the Business Men's Club says it has only considered the organization of a company and none has yet been formed. S. T. Mayo is Secy.

Ark., Harrisburg.—Polinett Lumber & Manufacturing Co. of Truman, Ark., is surveying for a contemplated extension of its railroad via Crowley's Ridge to Harrisburg, on the Iron Mountain Railroad, about 8 mi.

Ark., Turrell.—Arkansas Eastern R. R. Co. says it is not decided whether an extension will be built to Earle, Ark., 7 mi. F. E. Gary is Pres. and Gen. Mgr., and J. E. List, Edmiston, Secy. and Treas.

Ga., Augusta.—Augusta-Aiken Railway & Electric Corporation is reported about to make improvements. W. H. Glenn is Mgr.

Ga., Jacksonville.—C. F. Smith, Pres. Ocmulgee Lumber Co., is reported contemplating construction of a railroad from Jacksonville to Lumber City, on the Southern Ry., about 19 mi.

Ky., Eddyville.—Plans are being considered to build an electric railway from Eddyville to Kuttawa and Kuttawa Mineral Spring, about 5 mi. County Clerk at Eddyville may be able to give information.

Ky., Lombard.—The Broadhead-Garrett Co., Clay City, Ky., contemplates building 5 or 6 mi. railroad extension this year to its line from the Nada Mill at Lombard.

La., New Iberia.—Southwestern Traction & Power Co., F. W. Crosby, Gen. Mgr., will, it is reported, build extension to St. Martinsville, about 12 mi. Another extension is being considered. Jules Godchaux, New Orleans, is Pres.

Md., Baltimore.—Canton Railroad Co., W. B. Brooks, Pres., has applied for franchise to build an extension.

Miss., Quitman.—Mississippi Eastern Ry. Co. contemplates building an extension. P. Bowles is Chief Engr.

Miss., Louisville.—W. W. Estes is reported building a 2 mi. extension of his lumber railroad near Louisville.

N. C., Charlotte.—Southern Public Utilities Co. of Charlotte, controlling street railway and other properties in several Southern cities and towns, will, it is stated, make improvements.

N. C., Edgemont.—Plans are under consideration looking to the construction of a railroad from Edgemont to Newland, N. C., about 20 mi. W. W. Barber of Edgemont and W.

H. Ragland and J. Robert Campbell of Newland are reported interested.

Okla., Miami.—Oklahoma Interstate R. R. Co., represented by John R. Rose, has opened office in the Talbot Bldg. Line to connect Miami and Commerce, Okla., with Columbus, Galena and Baxter Springs, Kan. Extension from Miami to Centralia, Collinsville and Tulsa, Okla., is contemplated.

Okla., Muskogee.—Missouri, Oklahoma & Gulf R. R. has been authorized to issue \$1,750,000 receivers' certificates for reconstruction, etc. Wm. Coughlin is Gen. Mgr. at Muskogee.

S. C., Charleston.—Southern Railway, Atlantic Coast Line and Carolina, Atlantic & Western Railway (Seaboard Air Line) contemplate construction of a side track to be used jointly in reaching industries in connection with the development of the North Charleston Corp., of which R. G. Rhett is Pres.

Tenn., Chattanooga.—Cincinnati, New Orleans & Texas Pacific Rwy. is considering possibility of building an extension to North Chattanooga. C. Dougherty, Cincinnati, O., is Chief Engr.

Tenn., Greeneville.—Carolina, Greeneville & Northern Ry. Co. is expected to let contracts about May 1 for its proposed electric railway from Kingsport via Greeneville to Newport, Tenn., about 75 mi. F. A. H. Kelly, Greeneville, is Chief Engr.

Tex., Dallas.—Dallas Southwestern Traction Co. proposes to build railroad from Dallas to Cleburne and Glen Rose, Tex., 52 mi., via Mansfield and Venus. Not yet decided when bids for construction will be received. B. S. Wathen is Consult. Engr.; Jno. T. Witt, Chief Engr., and F. R. Perkins, Engr. in charge, 301 Gaston Bldg., Dallas.

Tex., Lubbock.—J. S. Grisham, Sweetwater, Tex., says that the proposed Panhandle & New Mexico R. R. is only in its infancy and charter has not yet been requested, but the line will be built within 2 years. (See Manufacturers Record, Feb. 18.)

Tex., Sulphur Springs.—Subscriptions have been started to build a railroad from Sulphur Springs to Quitman, Tex., about 25 mi. It will be called Sulphur Springs, Quitman & Great Northern. Address Railroad Committee, Sulphur Springs.

Va., Bristol.—H. P. Wyman Lumber Co., Inc., of Bristol proposes to build railroad out of Johnson's Mill, Va., for lumber purposes.

Va., Charleston.—Charleston Interurban R. R. Co., lessee of the Kanawha Valley Traction Co., which latter has acquired the Charleston Traction Co.'s line from South Charleston to St. Albans, expects to extend the line of the Kanawha Valley Traction Co. to Montgomery, 35 mi. east of Charleston. Wm. E. Chilton, Charleston, is Pres. and F. M. Stanton Secy. and Treas.

Va., Farmville.—Norfolk & Western Ry. has been authorized by the State Corporation Commission to build a low-grade line from a point near Burkeville to near Pamplin, Va., about 36½ mi. J. E. Crawford, Roanoke, Va., is Ch. Engr.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Agricultural Implements.—Rentfrew & Co., 105-A E. Main St., Richmond, Va.—Addresses of manufacturers of agricultural implements, etc.

Automobile Accessories, etc.—Peninsula Rapid Transit Co., Geo. L. Verlander,

Secy., Salisbury, Md.—Prices on automobile accessories and parts; also on equipment for garage, including repair plant.

Athletic Equipment.—Ferguson, Calrow & Taylor, Royster Bldg., Norfolk, Va.—Prices on athletic equipment, steam dryers, swimming pool, gymnasium lockers.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

- Automobiles.**—Nickel Automobile Co., Wm. A. Baker, Pres., 603 Inter-Southern Bldg., Louisville, Ky.—Will purchase autos and busses for jitney line; bodies of cars probably of special design for this purpose.
- Axles.**—See Iron and Steel Products.—Felice Biglino.
- Barrels.**—See Packages (Water-tight).—E. Dillon's Sons.
- Barrel Materials.**—Gager Lime & Mfg. Co., Chattanooga, Tenn.—Lime barrel cooperage stock as follows: 1,500,000 staves, 100,000 sets 15½-in. heading, 200,000 coiled elm hoops; delivery at Sherwood, Tenn.
- Barrels and Kegs.**—Klean Kleaner Mfg. Co., 112 Callahan St., Muskogee, Okla.—Barrels and kegs for floor sweep. (See Glass Jars, etc.)
- Belted, etc.**—G. E. Richmond, 1407 Congress Ave., Austin, Tex.—Belted, pulleys and shafting. (See Brick Machinery.)
- Boats (Gasoline).**—See Engines (Gasoline), etc.—Aristide Pepinos.
- Boilers.**—Dr. J. W. Austin, High Point, N. C.—Prices on boilers.
- Boiler.**—G. E. Richmond, 1407 Congress Ave., Austin, Tex.—Boiler; locomotive type; 100 H. P. (See Brick Machinery.)
- Boilers.**—Weatherford Compress Co., Weatherford, Tex.—Two steam boilers; 150 H. P. each.
- Boilers.**—Aristide Pepinos, Box 397, Tarpon Springs, Fla.—Names of manufacturers of boilers. Mr. Pepinos is acting for friends at Athens, Greece.
- Boiler.**—W. W. Boswell, Box 812, Roanoke, Va.—80 H. P. steam boiler, with large fire-box, to take wood 4 ft. long; second-hand, first-class condition.
- Boiler.**—See Mining (Coal) Machinery.—Floyd Mining Co.
- Bolts, Nuts, etc.**—See Rails, etc.—Port Comms., Jacksonville, Fla.
- Boxes (Paper).**—See Glass Jars, etc.—Klean Kleaner Mfg. Co.
- Boxes (Metal).**—See Packages (Water-tight).—E. Dillon's Sons.
- Brick Machinery.**—G. E. Richmond, 1407 Congress Ave., Austin, Tex.—Hydraulic brick press and power brick press of 20,000 to 25,000 capacity; 100 H. P. locomotive type boiler; 75 H. P. engine; Williams or Jeffries hammer pulverizing mill; 2-ton platform scales; belting; pulleys; shafting.
- Bricks.**—Bem Price, 518-19 Empire Bldg., Birmingham, Ala.—Approximate prices, f. o. b. Senatobia, Miss., on about 250,000 common brick of such quality that selects may be used for face brick.
- Bridge (Steel).**—Roger A. Derby, Jackson Springs, N. C.—Steel bridge to span about 200 ft.; second-hand preferred.
- Bridge Construction.**—Walker County Comms., Chas. M. Sartain, Chrmn., Jasper, Ala.—Bids until March 15 to construct 4 steel bridges across Black Warrior River at Cordova, Sipsey Fork, Mulberry and Town creek; plans and specifications on file with Probate Judge.
- Bridge Construction.**—Okla. County Comms., M. Cornelius, County Clerk, Oklahoma City, Okla.—Bids until March 8 to construct bridge; 10-ft. and 15-ft. concrete arch; plans and specifications on file with County Clerk.
- Bridge Construction.**—Duval County Comms., Frank Brown, Clerk, Jacksonville, Fla.—Bids until March 8 to repair Trout Creek bridge at Panama on Fernandina Rd., requiring driving about 325 piling, including graving off, pulling under capping and bolting; also pulling up about 200 piling and to keep bridge in serviceable repair for 18 months from date of letting contract; E. A. Ricker, Chrmn., County Comms.
- Bridge Spans.**—Hiwassee Valley Ry. Co., Fred A. Cloud, Chief Engr., Murphy, N. C.—Four 50-ft. second-hand bridge spans.
- Bridges (Steel), etc.**—Whitley Bros. (contractors for construction of Henry county sand-clay road, amounting to \$50,000), Dothan, Ala.—Prices on steel bridges, terra-cotta pipe and cement.
- Briquet (Sawdust) Machinery.**—Dollahan & Co., Smithton, Ark.—Data on making fuel (for furnaces, etc.) from sawdust and prices on machinery.
- Building Materials.**—Dr. J. W. Austin, High Point, N. C.—Prices on building materials and electrical equipment for \$8000 dwelling.
- Building Material.**—Isaac Less, Walnut Ridge, Ark.—Will purchase brick, cement and structural iron for \$10,000 store and office buildings.
- Building Materials.**—Hiram A. R. Gray, Melville, La.—Prices, f. o. b., on cement, sand, gravel, screwed pipe and fittings, plumbing fixtures, including closets, shower baths, bathtubs, traps and sanitary drinking fountains, cell grilles and window grilles, full-length bronze wire fly screens, 3-in. and 4-in. I beams, ½-in. and ¾-in. round reinforcing rods, 3-in. No. 10 expanded metal, 500 and 1200-gal. 18-gauge round water tanks.
- Canning Equipment.**—R. A. Fifield, Embrey Bldg., Remington, Va.—To correspond with manufacturers of and dealers in canning equipment and supplies.
- Cars.**—Navy Dept., Bureau Supplies and Accounts, Saml. McGowan, Paymaster-Gen., U. S. N., Washington, D. C.—Bids until March 9 to furnish 2 flat wooden cars; delivery Charleston, S. C.; schedule 7934.
- Cars (Railway, Box).**—M. H. Trice, receiver San Antonio, Fredericksburg & Northern Ry. Co., San Antonio, Tex.—Standard boxcars; 20, each of 60,000 lbs. capacity; wants prices and specifications on second-hand.
- Ceilings (Brass).**—See Metal Sheets (German Silver, Copper and Brass), etc.
- Cellulose Machines.**—Cottonseed Utility Co., Box 803, San Antonio, Tex.—Cellulose machines; paper and stock machines. Send catalogues and prices.
- Cement.**—See Building Material.
- Cement.**—See Bridges (Steel), etc.—Whitley Bros.
- Cement.**—U. S. Engr. Office, First Dist., New York City, Room 710 Army Bldg., 39 Whitehall St., New York.—Bids until Feb. 26 to furnish and deliver 32,000 bbls. American Portland cement; information on application; W. M. Black, Col., Engrs.
- Chutes.**—See Elevators.
- Cleaning Machinery.**—See Elevator (Grain) Machinery.—James Stewart & Co.
- Compresses.**—See Cotton Gins, etc.—D. L. Woodward.
- Concrete Mixer.**—V. C. Pickering, Chatsworth, Ga.—Prices on concrete mixer.
- Concrete Blocks.**—V. C. Pickering, Chatsworth, Ga.—Prices on machine for making concrete building blocks.
- Conveying Machinery.**—See Elevator (Grain) Machinery.—James Stewart & Co.
- Cookers (Steam), etc.**—E. A. Quisenberry, Lexington, Va.—Addresses of manufacturers of steam cookers, wooden tanks and cider mills; also steam engines for operating cider mill and furnishing steam for cooking.
- Corn Mill.**—F. Myers, Box 56, R. D. No. 3, Salisbury, N. C.—Prices on small or medium size portable mill to grind corn.
- Cotton Cloth.**—See Silk Fabrics, etc.—Elmer D. Pendleton.
- Creamery Equipment.**—Wheeling Co-operative Dairy Co., Albert A. Ames, 2800 Chapline St., Secy., Wheeling, W. Va.—Receiving bids on dairy and creamery equipment; milk pasteurizer, boiler, milk bottles, churn, refrigerating plant, ice-cream machinery, etc.
- Creosote Plant.**—J. L. Ricks, Woodland, Miss.—Estimates on cost of small creosote plant for fence posts.
- Cotton Gins, etc.**—D. L. Woodward, Warsaw, N. C.—Prices on cotton gins, presses, etc.
- Crushing (Rock) Plant.**—T. T. Todd, Coronaca, S. C.—Contemplates purchasing 100-ton to 200-ton granite rock crushing plant.
- Drainage System.**—Comms. Jackson County Drainage Dist. No. 5, J. W. De Witt, Chrmn., Edna, Tex.—Bids until Mch. 9 to construct canals, drains, ditches and levees, straighten and clean water-courses, etc.; 102 mi. ditches, yardage about 627,390; area of district 30,339 acres; information obtainable from W. C. Youngs, Dist. Engr.; J. W. Bagby, County Judge, or Russell Faulkner, Secy., all of Edna; engineer's reports on file with County Clerk.
- Dredging.**—U. S. Engr. Office, G. A. Youngberg, Maj., Engrs., Charleston, S. C.—Bids until March 19 to dredging in Ashley River, S. C.; information on application.
- Drying Machinery.**—See Elevator (Grain) Machinery.—James Stewart & Co.
- Dyes.**—R. M. Jassawalla & Co., 39-41 Apollo St. Fort, Bombay, India.—Interested in alizarin dyes and colors; view to representation.
- Electric Generator.**—Baltimore (Md.) Board of Awards.—Bids until March 3 to install 500 K. W. turbo-generator at high-pressure pumping station; drawings and specifications on file with C. E. Stubbs, Building Inspector.
- Electric-light Plant.**—City of Gibson, N. C., J. E. Doster, Mayor.—Bids on transformer for 200 lights, 60-watt, and 20 lights, 112-watt; also 12,000 ft. ¼-size insulated wire.
- Electric Motors.**—Power, care Manufacturers Record, Baltimore, Md.—One or two 15 to 20 H. P., 60 C., 440 V. 3 P. motors; good order; give details.
- Electric Plant.**—City of Clarksville, Va., R. H. Easley, Mayor.—Bids until March 2 to erect and install power plant and electric-lighting system; drawings, specifications, etc., on application to Saml. Davis, Chrmn. Light Committee.
- Electric and Gas Fixtures.**—W. A. Rayfield & Co., Box 649, Birmingham, Ala.—Addresses of electric and gas fixture manufacturers.
- Electric-light Materials.**—See Waterworks Material, etc.—Estill, S. C.
- Electric-light Plant.**—City, D. Isbell, Mayor, Guntersville, Ala.—Propositions for installation electric-lighting system.
- Electrical Machinery, etc.**—James Stewart & Co., Inc., Westminster Bldg., Chicago, Ill.—Now receiving bids on electrical and other machinery, costing about \$150,000, for Western Maryland R. R. grain elevator at Baltimore.
- Electrical Machinery.**—Reco Co., 204 N. 22d St., St. Louis, Mo.—15 K. W. direct-connected generator set, D. C., 115-volt, ready for service; also rotary or motor generator set; motor end 230-volt, D. C.; generator end 45 amperes, 60-volt.
- Electrical Machinery.**—Aristide Pepinos, Box 397, Tarpon Springs, Fla.—Names and addresses of manufacturers of machinery for water-power development; 3000 electrical horse-power; for installation near Athens, Greece. Mr. Pepinos is acting for friends at Athens.
- Electrical Machinery.**—Floyd Mining Co., Emma, Ky.—Electric generator; 250 volts.
- Electrical Equipment.**—See Building Materials.
- Elevator (Grain) Machinery.**—James Stewart & Co., Inc., Westminster Bldg., Chicago, Ill.—Now receiving bids on elevating, conveying, cleaning, drying and electrical machinery, costing about \$150,000, for Western Maryland R. R. grain elevator at Baltimore.
- Elevators.**—Hugh F. Mims, Morristown, Tenn.—Prices on elevators.
- Elevators.**—E. G. Hefflin, Fredericksburg, Va.—Prices on concrete elevator and chutes.
- Engine.**—G. E. Richmond, 1407 Congress Ave., Austin, Tex.—Engine of 75 H. P. (See Brick Machinery.)
- Engines (Steam).**—See Cookers (Steam), etc.—E. A. Quisenberry.
- Engines (Kerosene).**—Manatee Fruit Co., Palmetto, Fla.—Open bids March 15 on two 30 H. P. kerosene engines. (See Packing Plant (Oranges, etc.) Machinery.)
- Engraving Companies, etc.**—Rossal Stewart, Stewart, Ky.—Names of engraving companies; also of manufacturers of steel plates.
- Engine.**—See Mining (Coal) Machinery.—Floyd Mining Co.
- Engines (Gasoline), etc.**—Aristide Pepinos, Box 397, Tarpon Springs, Fla.—Names of manufacturers of gasoline engines up to 50 horse-power, and gasoline boats. Mr. Pepinos is acting for friends at Athens.
- Engines.**—W. W. Boswell, Box 812, Roanoke, Va.—10 or 12 H. P. engine; 25 or 30 H. P. engine; hoisting engine; second-hand, first-class condition.
- Feed Mill Machinery.**—G. L. Ulrick, care Exchange Bank, Carrizozo, New Mexico. Prices on equipment for feed mill; include turbine wheel, feed grinder of medium capacity, corn sheller and corn crusher.
- Flour Mills.**—Aristide Pepinos, Box 397, Tarpon Springs, Fla.—Names of manufacturers of flour mills and supplies. Mr. Pepinos is acting for friends at Athens, Greece.
- Frogs (Railway).**—Hiwassee Valley Ry. Co., Fred A. Cloud, Chief Engr., Murphy, N. C.—Prices and information on railway frogs.
- Fountains.**—See Building Materials.
- Furniture.**—Heber Springs Hotel Co., B. A. Burch, Secy.-Treas., Heber Springs, Ark. Prices on furniture for \$40,000 hotel.
- Garage Equipment.**—See Automobile Accessories, etc.—Peninsula Rapid Transit Co.
- Glass Jars, etc.**—Klean Kleaner Mfg. Co., 112 Callahan St., Muskogee, Okla.—4 and 16-oz. glass jars; tin cans of 2½, 10, 25 and 50-lb. capacity; crates and paper boxes for shipping; barrels and kegs for floor sweep.
- Gravel Loading.**—Rapides Gravel Co., Geo. K. Force, Mgr., Alexandria, La.—Bids from steam shovel contractor to load from 300,000 to 500,000 cu. yds. gravel and sand at price per cu. yd. loaded on railroad cars; opened bank is about 35 ft. high and 200 ft. long; location near Woodworth, La.
- Heading.**—See Barrel Materials.—Gager Lime & Mfg. Co.
- Heating Plants.**—W. A. Rayfield & Co., Box 649, Birmingham, Ala.—Addresses of manufacturers of hot-air furnaces and steam furnaces for dwellings.
- Heating System, etc.**—Directors School Dist. of Kansas City, Jas. B. Jackson, Jr., Secy., Public Library Bldg., Kansas City, Mo.—Bids until March 4 to install heating and ventilating apparatus, plumbing and drainage, electric wiring and the automatic temperature regulation in Wm. Cullen Bryant School, to be built on Westover Rd. between Broadway and Central Sts.; plans and specifications at office J. H. Brady, Ch. Engr., 517 Finance Bldg., Kansas City.
- Heating System, etc.**—Directors School Dist. of Kansas City, Jas. B. Jackson, Jr., Secy., Public Library Bldg., Kansas City, Mo.—Bids until March 4 to install heating and ventilating apparatus, electric wiring and automatic temperature regulation in Mark Twain School, to be built on 60th St. between Jackson St. and Swope Parkway; plans and specifications at office J. H. Brady, Ch. Engr., 517 Finance Bldg., Kansas City.
- Hoops.**—See Barrel Materials.—Gager Lime & Mfg. Co.
- Hydraulic Mining Machinery.**—Lone Jack Stone Co., Lynchburg, Va.—Estimates on installation of guaranteed sluicing plant at quarry, 5 mi. from Lynchburg; plant to move 20,000 or 30,000 yds. dirt from stone.
- Hydraulic Machinery.**—Sydnor Pump & Well Co., 1310 E. Main St., Richmond, Va. Data and price on sluicing-washing equipment for cutting earth from rock and gravel bed; nozzles, etc.
- I Beams.**—See Building Materials.
- Ice Cream Machinery.**—See Creamery Equipment.—Wheeling Co-operative Dairy Co.
- Iron and Steel Products.**—Felice Biglino, via Olanam 14, Milan, Italy.—To correspond relative to representing American manufacturers of malleable iron plates for joists, iron and steel pipe, iron and steel beams, sheet iron, fish plates, iron axles, axles mounted for locomotives, etc.
- Jail Equipment, etc.**—Sam H. Hart, Kingston, Tenn.—Correspondence with jail builders.
- Lead.**—Navy Dept., Bureau Supplies and Accounts, Saml. McGowan, Paymaster-Gen., U. S. N., Washington, D. C.—Bids until March 16 to furnish 49,500 lbs. 8-ft. by 20-in. sheet lead; delivery Norfolk; schedule 7949.
- Linen Fabrics, etc.**—Elmer D. Pendleton, P. O. Box 112, North Fond du Lac, Wis. Data and prices on high-grade linen fabrics, cotton cloth, strong, durable silk fabric, etc., for aeroplane coverings.
- Lockers.**—See Athletic Equipment.
- Metal Cases.**—Treasury Dept., O. Wendroth, Supervising Archt., Washington, D. C. Proposals until March 20 for metal filing cases in U. S. Postoffice and Courthouse at New Orleans, in accordance with the specifications and drawings Nos. S. A. 156-A, 157 and 158, copies of which may be had at this office.
- Metal Guards (Cattle).**—Hiwassee Valley Ry. Co., Fred A. Cloud, Chief Engr., Murphy, N. C.—Prices and information on metal cattle guards.
- Metal Sheets (German Silver, Copper and Brass), etc.**—R. M. Jassawalla & Co., 39-41 Apollo St. Fort, Bombay, India. Interested, view to representation, in German silver sheets and wires; aluminum circles, 18 to 20-in. gauge, from 4-in. diam. up, both sides rolled polished and soft; copper and brass sheets, brass ceilings, etc.
- Mills (Cider).**—See Cookers (Steam), etc.—E. A. Quisenberry.
- Mining (Coal) Machinery.**—Floyd Mining Co., Emma, Ky.—Small power plant and electric cutting machine; includes boiler, engine, generator (250 volts), 2000 ft. No. 20 wire, 2 breast or short wall coal cutting machines, fan and motor.
- Nozzles.**—See Hydraulic Machinery.—Sydnor Pump & Well Co.
- Oils, Paints, etc.**—Navy Dept., Bureau Supplies and Accounts, Saml. McGowan, Paymaster-General, U. S. N., Washington, D. C.—Bids until Mch. 16 to furnish 2500 lbs. murlatic acid, delivery Charleston, S. C., Sch. 7931; 3000 lbs. oxalic acid (crystals), delivery Norfolk, Va., Sch. 7935; 15,000 lbs. sulphuric acid, delivery Brooklyn, N. Y.; 3000 lbs. powdered aluminum, delivery Norfolk; 1300 lbs. beeswax, delivery Boston and Norfolk; 60,000 lbs. dry neutral blanc fixe, delivery Brooklyn and Norfolk; 300 qts. liquid gold bronze, de-

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livery Brooklyn; 10,000 lbs. dry metallic brown, delivery Brooklyn; 500 gals. pure turpentine Japan drier, delivery Norfolk; 2000 lbs. chrome green in oil, delivery Brooklyn; 1500 lbs. dry lampblack, delivery Brooklyn; 40,000 lbs. dry Indian red, delivery Norfolk; 8000 lbs. lump rosin, delivery Brooklyn; 800 lbs. sal ammoniac, delivery Charleston, S. C.; 2700 lbs. white sodium fluoride, delivery Brooklyn; 4700 lbs. tallow, delivery Brooklyn and Norfolk; 5400 gals. mixing varnish, delivery Brooklyn and Norfolk; 20,000 lbs. whitening, delivery Norfolk; all Sch. 7951.

Oil Mill Machinery.—Cottonseed Utility Co., Box 803, San Antonio, Tex.—Oil mill machinery, including seed cleaning, presses, cookers, pumps, oil tanks and general supplies; also for refineries, etc. Send catalogues and prices.

Packing Plant (Oranges, etc.) Machinery.—Manatee Fruit Co., Palmetto, Fla.—Open bids March 15 on two 30 H. P. kerosene engines, two sets washers, polishers, dryers, rolls, graders and 6 sizing machines.

Packages (Water-tight).—E. Dillon's Sons, Indian Rock, Va.—Data and prices from manufacturers on water-tight packages, both wooden barrels and light metal casing, for use in exporting lump lime.

Paper Machinery.—See Cellulose Machines.—Cottonseed Utility Co.

Paper (Wrapping).—Bensussan, Sides & Co., Salonique, Greece.—Samples and prices, view to representation, on packing paper (samples A, B, C and D on file office of Manufacturers Record, Baltimore, Md.) as follows: Sample A, certain number of bales, weight 100 kilos each, sheets to weigh 200 grammes to sq. meter, sizes 33x45 centimeters and 66x45 centimeters; sample B, certain number of bales, 64x84 centimeter, weight 17 kilos to 450 sheets; 64x84, weight 30 kilos to 480 sheets, and 64x84, weight 55 kilos to 480 sheets; sample C, certain number of bales, weight 100 kilos each, sizes 32x44 centimeters, sheets to weigh 200 grammes to sq. meter; sample D, size 33x45 centimeters, sheets to weigh 250 grammes to sq. meter. Send samples and prices.

Paving.—Board of Public Works, Roger G. McGrath, Secy., Louisville, Ky.—Bids until March 1 to pave with vitrified block sections of 33d, 34th, 35th, 36th, 37th, 38th and Kentucky Sts., Onyx, Belleaire and Sutcliffe Aves., letting No. 579; also until March 3 to pave with vitrified block sections of Green St., letting No. 571; samples of vitrified block to be submitted with bid; drawings and specifications on file with Board of Public Works.

Paving.—Board of Awards, John Hubert, Acting Pres., Baltimore, Md.—Bids in duplicate, care City Register, City Hall, until March 3 to grade, curb and pave with shell asphalt and vitrified block, on concrete base, contract No. 112: On Pitcher St., from Fremont Ave. to Pennsylvania Ave.; Arlington Ave., Lexington to Lanvale Sts.; Arlington Ave., Lafayette to Fremont Aves.; Bennett Pl., Arlington to Fremont Aves.; Poppleton St., Lexington to Franklin Sts.; Rutland Ave., Monument to Eager Sts.; Ashland Ave., Broadway to Chester St.; Myrtle Ave., Lexington to George St.; Pearl St., Saratoga St. to Pennsylvania Ave.; Druid Hill Ave., Hoffman to McMechen Sts.; also following intersections: Patterson Park Ave. and Orleans St.; Franklin and Gilmor Sts.; Mulberry and Gilmor Sts.; Franklin St. and Carrollton Ave.; Mulberry St. and Carrollton Ave.; Calhoun and Fayette Sts.; Franklin and Schroeder Sts.; Calhoun and Saratoga Sts.; about 49,100 sq. yds. sheet asphalt, 6000 sq. yds. vitrified block and 1000 sq. yds. granite block; specifications, etc., obtainable on application office of Paving Com., R. Keith Compton, Chrmn. and Consult. Engr., City Hall, on deposit \$5, each contract; plans and profiles on file office of Consult. Engr.

Paving.—City Comms., St. Petersburg, Fla.—Bids until March 1 to pave 2d St. from 8th to 12th Ave. and 12th Ave. from 1st to 2d St. with vitrified brick; width of streets, 20 ft.; granite curbing; plans and specifications on file with City Engr., who will furnish blanks for bids.

Paving and Sewer Construction.—City Council, Kingston, N. C.—Bids at City Hall until March 23 for street improvements and sewerage; about 12,000 sq. yds. brick, asphalt, bitulithic or other pavement; 30,000 lbs. ft. concrete curb and gutter; 30,000 sq. yds. sidewalk; 3 mi. 8 to 12-in. pipe sewers; plans and specifications on file at office of Clerk, Kingston, or will be mailed on application to Gilbert C. White, Engr., Charlotte, N. C., on payment \$10 to insure return.

Peanut Machinery.—F. W. Betts, Secy., Hopkins County Truck Growers and Shippers' Assn., Sulphur Springs, Tex.—Data and prices on peanut machinery.

Pipe (Terra-cotta).—Whitley Bros., Dothan, Ala.—Terra-cotta pipe. (See Steel Bridges, etc.)

Pipes and Flues.—See Superheater Parts and Materials.—Nichols Fire Box Superheater Co.

Piping.—See Iron and Steel Products.—Fellce Biglino.

Presses (Yarn).—Hugh Falls Mfg. Co., Harrison, N. C.—Prices on new or second-hand yarn press to bale yarn for export.

Presses (Cotton).—See Cotton Gins, etc. D. L. Woodward.

Pulleys.—See Belting, etc.—G. E. Richmond.

Pulp (Wood).—Charles R. Flfe Co., 621 Central National Bank Bldg., St. Louis, Mo. Ground wood mechanical pulp; in quantities; requests sample.

Pulverizer.—G. E. Richmond, 1407 Congress Ave., Austin, Tex.—Williams or Jeffries hammer pulverizing mill. (See Brick Machinery.)

Pump (Steam).—W. W. Boswell, Box 812, Roanoke, Va.—Steam water pump; second-hand, first-class condition.

Pumping Station.—Sewerage & Water Board, F. S. Shields, Secy., 5th floor, City Hall Annex, New Orleans, La.—Bids until April 19 for contract 72-D, additions to drainage pumping station No. 2, and contract 73-D, sluice gates for drainage pumping station No. 2; specifications and blank proposal forms obtainable at office of Board; deposit of \$100 required for each set of plans of contract 72-D; Geo. E. Earl, Gen. Supt.

Railroad Materials.—See Iron and Steel Products.—Fellce Biglino.

Railway Materials.—See Rails, etc.—Port Comms., Jacksonville, Fla.

Rails, etc.—Port Comms., F. W. Bruce, Chief Engr., 314 Realty Bldg., Jacksonville, Fla.—Bids until March 10 to furnish track material as follows: 600 gross tons 70-lb. rails, 40 tons 4-bolt angle splice bars, 3 tons bolts and nuts, 18 tons spikes, 45 turnouts, including switches, frogs and switchstands; consider open hearth or Bessemer steel; quantities approximate; specifications obtainable from Engr.

Refrigerating Machinery.—See Creamery Equipment.—Wheeling Co-operative Dairy Co.

Reinforcing Rods.—See Building Materials.

Road Equipment.—Bell County, W. C. Bingham, Clerk, Pineville, Ky.—Will purchase wagons for hauling crushed stone; also rollers and spreaders.

Road Construction.—Smyth County Clerk's Office, Marion, Va.—Bids opened March 1 to grade about 20 mi. road; G. P. Coleman, Highway Commr., Richmond, Va.

Silk Fabric.—See Linen Fabrics, etc.—Elmer D. Pendleton.

Road Construction.—Madison County Highway Com., S. W. Brown, Secy., Marshall, N. C.—Bids until March 16 to grade and drain about 6.9 mi. road leading from Hot Springs; about 73,550 cu. yds. excavation; profiles and specifications at office of Clerk Superior Court, Marshall; Highway Com. will furnish blanks; J. B. Clingman, County Road Engr.

Road Construction.—Warren County, Vicksburg, Miss.—Bids at office Chancery Clerk until March 2 to construct about 5 mi. hard-surfaced road, novaculite, as per plans and specifications on file Clerk's office; W. F. King may be addressed.

Rods (Steel, Flexible).—Geo. W. Roper, Box 582, Roanoke, Va.—Flexible steel rods (somewhat similar to umbrella rods), about 1/2-in. diam., 4 to 6 ft. long (possibly some of them longer.)

Rollers (Road).—J. H. Hawley, Security Bldg., Galveston, Tex.—Prices on new or second-hand 10-ton road roller.

Scales.—G. E. Richmond, 1407 Congress Ave., Austin, Tex.—Platform scales; 2 tons. (See Brick Machinery.)

Screens.—See Building Materials.

Sewer Construction Materials.—See Water-works Materials.—Estill, S. C.

Sewer Construction.—City of Tulsa, Okla.—Bids until March 1 to construct complete sanitary sewer system, including outlets, connections, etc., for Sewer Dist. No. 95; plans, profiles and specifications on file with T. C. Hughes, City Engr.; bids opened March 2.

Sewer Construction.—Baltimore (Md.) Board of Awards, John Hubert, Acting Pres.—Bids in duplicate at office City Register, City Hall, until March 10 to build Gwynn's Run trunk drain, storm-water contract No. 42, section No. 1, as per plans on file office of Calvin W. Hendrick, Chief Engr., Sewerage Com.; specifications and plans obtainable on application office of Harry W. Rodgers, Secy., Com., 904 American

Bldg., after Feb. 23, on payment \$5; approximate quantities: 1200 ft. 15x12-ft. 6-in. drain; 150 ft. 18x12-ft. 6-in. drain; 600 ft. excavated outlet channels; 8300 cu. yds. earth and 700 cu. yds. rock excavation; 4750 cu. yds. concrete; 310 cu. yds. brick masonry; 250,000 lbs. reinforcing steel; Charles England, Chrmn., Sewerage Com.

Sewer Construction.—City Council, Kingston, N. C.—Bids at City Hall until March 3 to construct about 8 mi. 8 to 12-in. pipe sewers. (See Paving and Sewer Construction.)

Shafting.—See Belting, etc.—G. E. Richmond.

Sprinkler Systems.—Hugh F. Mims, Morristown, Tenn.—Prices on sprinkler systems.

Station (Railroad Equipment).—Hlawassee Valley Ry. Co., Fred A. Cloud, Chief Engr., Murphy, N. C.—Prices and information on railroad station equipment.

Steam Box.—See Superheater Parts and Materials.—Nichols Fire Box Superheater Co.

Steam Dryers.—See Athletic Equipment.

Steel Plates.—Rossal Stewart, Stewart, Ky.—Names of manufacturers of steel plates for engraving.

Steel Beams.—See Iron and Steel Products.—Fellce Biglino.

Staves.—See Barrel Materials.—Gager Lime & Mfg. Co.

Steam-heating Plant.—Heber Springs Hotel Co., B. A. Burch, Secy.-Treas., Heber Springs, Ark.—Prices on steam-heating plant for \$10,000 hotel.

Structural Iron.—See Building Material.

Superheater Parts and Materials.—Nichols Fire Box Superheater Co., J. S. Nichols, Pres., 82 Gordon St., Atlanta, Ga.—Will want steam box valve (special design) and steel arch, all made of same material as crown and flue-sheets of locomotives; pipe connections of same; superheater steam pipe; large flues; sundry smaller parts; wants correspondence with manufacturers of these parts and materials who are prepared to use electrical welding.

Swimming Pool.—See Athletic Equipment.

Tanks (Wooden).—See Cookers (Steam), etc.—E. A. Quisenberry.

Tanks.—Hlawassee Valley Ry. Co., Fred A. Cloud, Chief Engr., Murphy, N. C.—Prices and information on tanks.

Tanks.—See Building Materials.

Telephone Equipment.—Soddy Telephone Co., Jas. A. Roberts, Pres., Soddy, Tenn.—Telephone equipment, including switchboard, magneto telephones, white cedar poles, etc.

Textiles (Cotton and Woolen).—R. M. Jassawalla & Co., 39-41 Apollo St. Fort. Bombay, India.—Interested in cotton and woolen textiles; view to representation.

Tiling (Glazed).—Dowling-Shands Lumber Co., Green Cove Springs, Fla.—Addresses of manufacturers of glazed tiling for fireplace fronts, wainscoting, etc.

Tubes (Collapsible).—Tidewater Chemical Co., Richmond, Va.—Addresses of manufacturers of collapsible tubes, such as used for tooth and shaving pastes, etc.

Tubing.—Navy Dept., Bureau Supplies and Accounts, Saml. McGowan, Paymaster-Gen., U. S. N., Washington, D. C.—Bids until March 9 to furnish 2900 ft. flexible copper tubing, delivery Washington, schedule 7946; also until March 16 to furnish 2450 ft. flexible voice tubing, delivery Boston, schedule 7950.

Valves.—See Superheater Parts and Materials.—Nichols Fire Box Superheater Co.

Wagons.—See Road Machinery.—Bell County, W. C. Bingham, Clerk.

Water Wheel.—W. J. Lunsford, Hiltons, Va.—Prices on 40-in. second-hand water wheel; Samson or Morgan-Smith preferred.

Water-wheels.—See Feed Mill Machinery.—G. L. Ulrick.

Water-works Materials, etc.—Board of Public Works, M. T. Laflitte, Chrmn., Estill, S. C.—Bids Feb. 26 on material for water-works, electric lights and sewer improvements; for bidding sheets and specifications apply J. B. McCrary Co., Engr., Atlanta, Ga.

Water-works.—City of Chillicothe, Mo.—Bids March 9 by Fred W. Cornue, City Auditor, on water-works extensions; bidders to be present at opening; furnishing f. o. b. cars about following: 375 and 225 tons cast-iron pipe, class B; 10,000 lbs. special castings, class D, bell and spigot; valves, including 10 6-in. valves; 22 fire hydrants, 6-in. hub end connections; furnishing tools, labor and materials, and laying about 500 ft. 6-in. cast-iron pipe, 5300 ft. 12-in. cast-iron

pipe; setting valves, hydrants, etc.; plans and specifications on file with City Clerk and at office of Harper & Stiles, Consult. Engrs., 911 Grand Ave. Temple, Kansas City, Mo., and may be obtained for \$1.

Window Sash and Frames (Steel), etc.—Dept. of Interior, Bo Sweeney, Asst. Secy., Washington, D. C.—Bids in duplicate until March 17 to furnish 102 steel window sash and frames, steel casings, wired glass and operating devices, including glazing, and for furnishing and installing 14 large clear-story windows and operating devices for Pension Office Bldg., Washington, in accordance with plans and specifications, copies obtainable on application to Chief Clerk.

Woodworking Machinery.—Temple Sash & Door Co., 7th St. and Ave. A, Temple, Tex.—Prices on 4-in., 3-drum sand-papering machine and light chain saw mortiser; could use second-hand.

For Cold-Storage Plant.

Crozet Ice & Cold Storage Co., Crozet, Va., writes to the MANUFACTURERS RECORD as follows:

"In the near future we expect to erect an addition to our present storage plant. This will be built of reinforced concrete or brick, either four or five stories high, with one basement story, for which excavations must be made. Will be large enough to accommodate about 20,000 barrels of apples. We will need the services of an architect and engineer to draw plans and specifications for this building, and will be in the market for either brick or cement and steel for the walls, roofing material, insulation and cooling coils. We will either contract for the erection of the building or construct it ourselves under direction of a supervising engineer."

To Build Up Industries.

James L. Logan of Atlanta informs the MANUFACTURERS RECORD that he and his associates are interested in the development of a town within 50 miles of Atlanta, where already there are an oil mill, stove mill, corn mill and ginney. There is a building in the town constructed originally for a hosiery mill, and Mr. Logan seems inclined to favor a hosiery mill or a cannery, and says he is prepared to offer proper inducements for the location of like manufacturing enterprises in the town, which has good railroad facilities and is surrounded by some of the best farm lands in Georgia.

For Farmington.

Farmington, W. Va., is planning for its district, which has a taxable valuation of \$14,000,000, the improvement of 26 miles of brick road. The recently-organized Board of Trade of the town, with Lee Toothman, president, and Howard Coleman, secretary, is investigating the subject of new sewerage, water-works and electric-light plant.

Lime Barrel Cooperage Stock.

Gager Lime & Manufacturing Co., Chattanooga, Tenn., writes to the MANUFACTURERS RECORD as follows: "We are in the market for one year's supply of lime-barrel cooperage stock, consisting of about the following: 1,500,000 staves, 100,000 sets of 15 1/2-inch heading, 200,000 coiled elm hoops. Delivery at Sherwood, Tenn."

FINANCIAL NEWS

FINANCIAL CORPORATIONS

Ala., Birmingham.—Southern Investment Co. incptd., capital \$10,000; William B. White, Pres.; Ray M. Sterne, V.-P., and Richard R. Stotlar, Secy. and Treas.

Ala., Birmingham.—Seminole Investment Co. has filed articles of incorporation; capital \$2000; incptd., B. A. Thompson, Pres.; L. L. Campbell, V.-P., and O. J. Krebs, Secy.-Treas.

Fla., Eau Gallie.—State Bank of Eau Gallie, being organized by A. E. Donegan and others, will begin business in the Gleason Bldg. about Mch. 15.

Ga., Savannah.—Liberty Investment Co. has filed application for charter; capital \$100,000, with authority to increase to \$500,000. Incprts.: E. M. O'Brien, E. F. O'Connor and F. M. Oliver.

Ky., Louisville.—United States Mortgage Bond Co. Incptd.; capital \$100,000; organizers, A. J. Heliker, Prest.; D. T. Utterback, V.-P., and Albert W. Tallman, Secy.

Ky., Madisonville.—A new bank, in which P. B. Ross is interested, is reported being organized.

Md., Brunswick.—A new bank, capitalized at \$25,000, is being organized by W. O. Rau and others.

Miss., Mound Bayou.—Mound Bayou State Bank is being organized with \$10,000 capital. Precilla McCarty will be Treas.

Mo., Harwood.—First State Bank of Harwood Incptd.; capital \$10,000. C. T. Broughton, Prest.; P. Hareison, V.-P.; J. N. Staten, Cash.; Staten Foster, Asst. Cash. Business is to begin about March 15.

Mo., St. Louis.—Halme Investment Co. has filed articles of incorporation; capital \$5000; incprts., William A. C. Halme, Katherine A. Halme and Norman B. Howard.

Okla., Mountain View.—Bank of Mountain View chartered; capital \$15,000; incorporators, A. F. Smelser, Oklahoma City; C. W. Smelser, Coopertown, and T. B. Donnell, Gotebo.

Okla., Villa.—First State Bank chartered; capital \$15,000; surplus \$1500; Irving H. Wheatcroft, Prest.; J. Ernest Wheatcroft, V.-P.; Jas. W. Porter, Cash. Business began Feb. 4.

S. C., Charleston.—Germania National Bank is chartered; capital \$200,000; Henry Schaeche, Prest.; Walter William, Cash. This succeeds the Germania Savings Bank, Charleston, S. C.

Tenn., Memphis.—The Goodman Christmas Savings Club Co. has filed application for charter; capital \$20,000. Incprts.: J. A. Goodman, Prest.; Charles J. Rauch, Secy. and Treas.; Leo Goodman, John P. Rauch and F. G. Dixon.

Tenn., Mitchellville.—The People's State Bank is Incptd. by S. S. Miller, L. N. Moore, O. E. Graves and J. T. McNeill.

Tex., Houston Heights.—Houston Heights Investment Co., capital \$25,000, is Incptd. by L. E. Mills, N. L. Mills and E. N. Mills.

Tex., Waller.—Guarantee State Bank of Waller, capital \$10,000, Incptd. Directors: C. H. Umland, Prest.; W. P. Castle, 1st V.-P.; R. C. Mathews, 2d V.-P.; A. W. Umland, Cash.; J. C. Jenkins.

Tex., Wichita Falls.—The First National Bank and the First State Bank & Trust Co. are reported to have consolidated.

Va., Richmond.—National Bond & Investment Co. chartered; capital \$300 to \$972,000; John W. Creekmur, Prest.; Robt. G. Drefflein, Secy. and Treas., Chicago, Ill.

W. Va., Charleston.—Charleston National Bank and the National City banks have consolidated under the name of The National Bank.

W. Va., Weirton.—Weirton Building & Loan Co. Incptd., capital \$100,000; incorporators, E. Ferguson, D. M. Peterson and D. M. Weir, Steubenville, O.; D. M. Stahley, G. L. Buchanan and J. A. Purdy, Hollidays Cove, W. Va.; G. L. Bambrich and W. J. Hudson, New Cumberland, Md.

NEW SECURITIES

Ala., Evergreen.—Conecuh county has for sale \$50,000 5 per cent. 30-year road-improvement bonds. Address County Comms.

Ala., Huntsville.—Bids were received until noon Feb. 23 by W. T. Lawler, Judge of Probate, Madison county, for \$35,000 5 per cent. 20-year \$500 courthouse equipment bonds; dated Jan. 1, 1915.

Ala., Huntsville.—\$40,000 5 per cent. 30-year high-school bonds are voted and bids for same will be opened Mch. 16. J. D. Humphrey is Mayor. Further particulars will be found in the advertising columns.

Ala., Vernon.—Election is to be held March 23 to vote on \$150,000 Lamar county road bonds. Address County Comms.

Ark., Hampton.—\$8000 school building bonds are voted. Address County Comms.

Ark., Hampton.—\$8000 Hampton School Dist. bonds are voted. Address Board of Trustees.

Ark., Huttig.—\$12,000 5 per cent. bonds Consolidated Dist. No. 60 recently voted by

the School Board have been sold. W. H. Moore is Secy. Board of Comms.

Ark., Little Rock.—Bill is to be introduced in the Legislature providing for a loan of \$1,000,000 for 15 years to relieve State's financial condition. Address The Governor.

Fla., Bartow.—Bids will be received until 11 A. M. March 15 for \$15,000 5 per cent. 20-year bonds Special Tax School Dist. No. 13, Polk county. J. C. Owens is Chrmn. Board of Public Instruction, Polk county.

Fla., Clearwater.—Board of Public Instruction, Pinellas county, has been requested to authorize an issue of \$20,000 Safety Harbor School Dist. bonds.

Fla., Fellsmere.—\$25,000 6 per cent. 15-year bonds Special Tax School Dist. No. 14, St. Lucie county, are voted; date for opening bids not yet decided. Address Board of Public Instruction St. Lucie County at Fort Pierce, Fla. Geo. A. Gaeger is Chrmn.

Fla., Inverness.—Election is to be held in Citrus county Apr. 3 to vote on \$50,000 5 per cent. 10-year refunding bonds. J. J. Williams is Chrmn. Board of County Comms., Homassassa, Fla.

Fla., Jacksonville.—A bill is to be introduced in the Legislature providing for an issue of municipal improvement bonds. Address Board of Bond Trustees.

Fla., Jacksonville.—Election is to be held in Duval county to vote on \$300,000 of bonds to liquidate outstanding indebtedness. Address County Comms.

Fla., Miami.—Election to vote on \$100,000 Dade county road bonds is postponed from March 16 to March 23. Frank A. Bryan is Chrmn. County Comms., Fort Lauderdale, Fla.

Fla., Pablo Beach.—\$25,000 sewer and \$10,000 electric-light 6 per cent. 30-year bonds have been purchased by J. B. McCrary Co., Atlanta.

Fla., Tampa.—Bids will be received until 11 A. M. March 20 by William Schneider, Chrmn. Board of Public Instruction, Hillsborough county, for \$5000 6 per cent. bonds Special Tax School Dist. No. 18, Hillsborough county.

Fla., Tarpon Springs.—The \$25,000 6 per cent. 25-year bonds Special School Tax Dist. No. 1, Tarpon Springs, to be voted on Feb. 20 are for the following purposes: Payment of present district debt, \$18,000; general school purposes and improvements, \$7000. W. A. Allen is Chrmn. and Dixie M. Hollins Secy.

Fla., Titusville.—Election is to be held in Brevard county to vote on \$150,000 Third Road Dist. road bonds. Address County Comms.

Fla., West Palm Beach.—The \$750,000 highway and \$50,000 funding indebtedness bonds to be voted on March 23 are 5-30-year 5½ per cents. Geo. O. Butler is Clerk.

Ga., Alma.—Election is to be held March 3 to vote on \$15,000 water-works bonds. Address The Mayor.

Ga., Atlanta.—Bids will be received until noon Mch. 15 for \$3,525,000 20-30-year \$500 or \$1000 State of Georgia refunding bonds; interest 4 or 4½ per cent.; dated July 1, 1915. John M. Slaton is Governor.

Ga., Cedartown.—Election is to be held Mch. 20 to vote on \$50,000 5 per cent. \$500 school bonds, maturing Jan. 1, 1945. S. P. Holloway is Mayor and J. C. Walker City Clerk.

Ga., Ellaville.—Election is to be held Mch. 4 to vote on \$10,000 school-building bonds. Address Dist. Comms.

Ga., Hawkinsville.—\$35,000 5 per cent. 29-year \$1000 school, water and sewer bonds are voted. G. W. Jordan is Mayor and Jesse Batts City Clerk.

Ga., Rome.—Election to vote on \$20,000 Floyd county hospital bonds will probably be held in April. Address Board of Comms., M. B. Wubanks, Atty.

Ga., Tifton.—\$37,000 5 per cent. water-works, school and fire-department bonds are being offered. W. H. Hendricks is Mayor.

Ky., Carlisle.—Election is to be held Mch. 17 to vote on \$125,000 Nicholas county road bonds. Address County Comms.

Ky., Ludlow.—Question of issuing \$30,000 school bonds is being considered by Board of Education.

Ky., Princeton.—Election is to be held Apr. 3 to vote on Caldwell county pike bonds. Address County Comms.

La., Amite City.—Police Jury, Tangipahoe parish, has authorized an issue of \$50,000 funding bonds.

La., DeRidder.—City has voted \$41,000 First Sewerage Dist. bonds, and \$24,000 have been voted by City Council for water-works. J. Y. Dempsey is Prest. Board of Sewer Comms.

La., Hahnville.—Election is to be held in St. Charles parish Mch. 9 to vote on \$70,000 bonds Road Dist. No. 2. Address Police Jury.

Md., Cumberland.—The recent sale of \$150,000 of 4½ per cent. street-paving bonds to Alexander Brown & Sons, Baltimore, has been declared void and new bids will be opened March 23. A. W. Straub is City Clerk and Thomas W. Koon, Mayor.

Miss., Greenville.—\$100,000 5 per cent. 30-year \$1000 Washington county railroad refunding bonds have been purchased at \$101.341 by Wm. R. Compton & Co., St. Louis, Mo. W. W. Miller is County Clerk.

Miss., Hazlehurst.—Bids will be opened April 1 for \$150,000 6 per cent. 25-year \$500 road bonds Copiah County Dist. 5. Address B. Shelton, Clerk Road Comms. Dist. 5.

Miss., Okolona.—The \$58,000 sewer bonds voted Feb. 9 are 20-year 5 per cents. Address The Mayor.

Mo., Kennett.—The \$7000 water-works bonds to be voted on Mch. 2 are 10-20-year 5 per cents; denomination \$500. Address S. G. Fisher, City Clerk. Clyde Oakes is Mayor.

Mo., New Madrid.—Bids will be received until 1 P. M. Mch. 16 by S. R. Hunter, Jr., Treas. New Madrid county, for \$340,000 bonds Drainage Dist. No. 28 and \$90,000 bonds Drainage Dist. No. 29, New Madrid county. J. L. Ransburgh is County Clerk.

Mo., Smithton.—\$8000 Smithton School Dist. bonds are voted. Address Board of Trustees.

N. C., Asheville.—Bids will be received until noon March 10 for \$50,000 5 per cent. 30-year funding bonds. J. E. Rankin is Mayor. Further particulars will be found in the advertising columns.

N. C., Dodson.—Election ordered for Feb. 16 to vote on \$10,000 5 per cent. 30-year Long Hill township, Surry county, bonds was called off because of irregularity in registration. J. B. Soarger is Chrmn. County Commissioners.

N. C., High Point.—Bill is to be introduced in the Legislature authorizing an issue of \$40,000 bonds to fund floating indebtedness. Fred N. Tate is Mayor.

N. C., Kinston.—\$100,000 5 per cent. 30-year \$1000 sewer, light and paving bonds voted last June have been purchased by Leach & Co., New York, at par and interest. W. B. Coleman is City Clerk.

N. C., Lenoir.—Application has been made to the Legislature for authority to issue \$50,000 of bonds. They will not be issued, however, by the present board, which retires in May. Jos. F. Peele is Mayor.

N. C., Lincolnton.—Election is to be held Mch. 16 to decide question of borrowing \$10,000 for 10 years to pay off existing indebtedness and to make improvements to school. Address Board of Aldermen.

N. C., Lumberton.—Bids received until noon Feb. 25 for \$35,000 6 per cent. 10-year street-improvement bonds. Address G. T. Page, Treas.

N. C., Mooresville.—E. C. Deaton, Town Clerk, is offering at private sale \$15,000 5 per cent. 30-year improvement bonds.

N. C., Rowland.—\$10,000 of bonds to complete sewerage system have been purchased by J. B. McCrary Co., Atlanta, Ga. D. M. McLaurin is Mayor. (It was previously stated that the bonds were to be issued for water-works.)

N. C., Taylorsville.—Election is to be held in Alexander county Mch. 9 to vote on \$150,000 road bonds. Address County Comms.

Okla., Afton.—\$37,000 6 per cent. 5-25-year sanitary sewer bonds have been purchased at par and accrued interest by John Nuveen & Co., Chicago.

Okla., Chelsea.—\$30,000 6 per cent. \$1000 sewer bonds, redeemable \$6000 every 5 years, will soon be placed on the market. Address John L. Jones, City Clerk.

S. C., Anderson.—Election is to be held in Anderson county March 30 to vote on \$750,000 5 per cent. 40-year \$1000 highway improvement bonds. J. S. Fowler is Chrmn. Highway Com., Anderson county.

S. C., Anderson.—Election is to be called to vote on \$100,000 street-paving bonds: Address The Mayor.

S. C., Blackville.—Bids will be received until April 1 by J. M. Farrell, Chrmn. Public Service Com., for \$14,000 6 per cent. 20-40-year improvement bonds.

S. C., Columbia.—Bill has passed the Legislature authorizing an election to vote on \$250,000 school bonds. Address Board of Education.

S. C., Greenville.—City has for sale \$60,000 courthouse and \$30,000 jail Greenville county bonds. Address W. H. Williman.

S. C., Woodruff.—\$60,000 5 per cent. 40-year \$1000 water and sewer bonds voted July 7, 1914, were purchased at 97 and interest by J. H. Hillsman & Co., Atlanta, Ga.

S. C., Union.—\$25,000 6 per cent. 20-40-year water and sewer bonds are voted. L. C. Wharton is Mayor.

Tenn., Maryville.—Election is to be held Mch. 20 to vote on \$55,000 5 per cent. 30-year water bonds. Address The Mayor.

Tenn., Nashville.—\$675,000 5 per cent. 12-year funding bonds were purchased jointly at \$1,013,306.80 by E. H. Rollins & Sons, N. W. Halsey & Co. and the Equitable Trust Co., New York.

Tex., Austin.—Petition is being circulated in Travis county asking that an election be called Mch. 22 to vote on \$150,000 hospital bonds. Address County Comms.

Tex., Austin.—Attorney-General has approved the following securities: \$17,000 5 per cent. 10-40-year City of Italy sewerage; \$1500 5 per cent. 10-20-year bonds Van Zandt county common school Dist. No. 87; \$15,000 sewer and \$15,000 water-works 5 per cent. bonds, Brenham.

Tex., Barstow.—\$340,000 of an issue of \$475,000 of 6 per cent. 2-40-year bonds Ward County Irrigation Dist. No. 1 were purchased at par by the Baker Mfg. Co., Sweetwater, Tex., contractors for the work, who are now offering the bonds.

Tex., Bastrop.—\$30,000 5 per cent. 10-30-year bonds Bastrop County Road Dist. No. 3, dated Mch. 10, 1914, have been purchased by J. L. Arlitt, Austin, Tex.

Tex., Belton.—Bids will be received until 10 A. M. March 10 for \$15,000 5½ per cent. 40-year bonds Road Dist. No. 4, Bell county. W. E. Hall is County Auditor.

Tex., Brownwood.—Election will be held March 23 to vote on \$8000 septic tank and crematory and \$7000 school bonds. Address The Mayor.

Tex., Gainesville.—\$50,000 5½ per cent. 15-year Cooke county road and bridge bonds are reported sold. Address County Comms.

Tex., Hallettsville.—Election is to be held in Justice Precinct No. 3 (Shiner), Lavaca county, March 20 to vote on \$200,000 road bonds. Address County Comms.

Tex., Junction City.—Bids will be received any time by Judge of Kimball County for \$14,000 5 per cent. 40-year bonds Road Dist. No. 1.

Tex., Livingston.—\$7000 5 per cent. bonds, Livingston Free School Dist., dated May 15, 1913, have been purchased by J. L. Arlitt of Austin, Tex.

Tex., Longview.—Election is to be held in Gregg county Mch. 18 to vote on \$300,000 road bonds. Address County Comms.

Tex., Marshall.—\$300,000 bonds Road Dist. No. 1, Harrison county, have been purchased by E. W. Rollins & Sons, Chicago.

Tex., McGregor.—\$25,000 5 per cent. 10-40-year bonds McGregor Independent School Dist. have, it is reported, been sold at par and interest. Address Board of Trustees.

Tex., Mineola.—\$24,500 water-works bonds have been voted. Address The Mayor.

Tex., Mission.—\$23,000 Independent School Dist. bonds have been voted. Address Board of Trustees.

Tex., Pecos.—Bids will be received by Ben Randalls, County Judge Reeves County, for \$100,000 5 per cent. 20-40-year bonds Road Dist. No. 1.

Tex., Richmond.—Bids will be received until 10 o'clock Feb. 24 for \$130,000 5 per cent. 1-40-year bonds Road Dist. No. 4, Fort Bend county. W. I. McFarlane is County Judge at Fort Bend county.

Tex., San Antonio.—City has for sale \$723,000 1-40-year refunding bonds. Address The Mayor.

Tex., Sherman.—\$10,000 road bonds Dist. No. 1, Grayson county, are voted. Address County Comms.

Tex., Taylor.—Election is to be held Mch. 19 to vote on \$100,000 5 per cent. 40-year \$100 street-improvement bonds. Address City Comms.

Tex., Terrell.—\$300,000 Terrell and Elmo Dist., Kaufman county, road bonds voted last April will probably soon be placed on the market. Address Dist. Comms.

Tex., Uvalde.—\$20,000 5 per cent. 35-year street-improvement bonds have been purchased by J. L. Arlitt, Austin, Tex. M. B. Walcott is Mayor.

Tex., Whitewright.—\$4500 of school bonds are voted. Address Board of Education.

Tex., Wichita Falls.—Bids will be opened

[For Additional Financial News, See Page 58.]

Merchants-Mechanics National Bank

South and Water Sts. BALTIMORE, MD.
DOUGLAS H. THOMAS, President
JNO. B. RAMSAY, V.-P. and Chm. Bd. of Dir.
JOHN B. H. DUNN, Cashier.
Capital \$2,000,000 Deposits \$21,670,000
Surplus and Profits \$2,175,000
Accounts of Banks, Bankers, Corporations and Individuals solicited.
We invite correspondence.

Edwin Warfield, President

Fidelity and Deposit Company of Maryland

Home Office: Baltimore

Total Assets over \$11,000,000.00

All Kinds and Classes of Surety Bonds and Casualty Insurance

Largest and Strongest Surety and Casualty Company in the World

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39 S. La Salle Street
CHICAGO, ILL.

We buy Southern Municipal Bonds (County, City, School, Road and Drainage District)

5000—\$9.75

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SOUTHWEST VIRGINIA ENTERPRISE
Wytheville, Virginia

THE NORTHERN CENTRAL RAILWAY COMPANY.

Baltimore, Md., 11th February, 1915.
The Annual Meeting of the Stockholders of this Company is called to be held in the Assembly Room, second floor, Union Station, in the City of Baltimore, Maryland, at 10:45 A. M., on Thursday, 25th February, 1915, when the Annual Report of the President and Board of Directors for 1914 will be presented, an election held for twelve Directors to serve for the ensuing year, and such other business transacted as may properly come before the meeting.
LEWIS NEILSON, Secretary.

York Safe and Lock Company

MANUFACTURERS OF

SAFES and VAULTS

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BALTIMORE, MD.

Wm. F. Bockmiller, Pres.

John G. Hullett, Secy

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Original Makers

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Trade Mark on Every Box.

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INCORPORATING under broad, liberal, safe and stable Delaware laws. A fully equipped department for proper organization and registration of corporations. BANKING AND TRUST department gives special attention to out of town customers' accounts.

TITLE DEPARTMENT examines and guarantees title to realty throughout Delaware. REALTY DEPARTMENT has sites for manufacturing industries. Modern Methods of management of property.

J. ERNEST SMITH, President and Gen. Counsel
WM G. TAYLOR, Vice-Pres. and Treasurer.
HARRY W. DAVIS, Vice-Pres. and Secretary
W. W. PUSEY, 2d, Title and Real Estate Officer

The National Exchange Bank

OF BALTIMORE, MD.

Hopkins Place, German and Liberty Streets
Capital, \$1,000,000

August 9th, 1913, Surplus and Profits, \$764,091.00

OFFICERS

WALDO NEWCOMER, President.
SUMMERFIELD BALDWIN, Vice-Pres.
R. VINTON LANSDALE, Cashier.
C. G. MORGAN, Asst. Cashier.

Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals Invited.

The First National Bank

OF KEY WEST, FLA.

United States Depository and Disbursing Agent

Capital - - - \$100,000

Surplus and Undivided Profits - - - 40,000

A general banking business transacted

Special attention given to collections.

JOHN NUVEEN & CO.

First National Bank Building

CHICAGO

We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.

Write us if you have bonds for sale.

FIRST NATIONAL BANK

RICHMOND, VIRGINIA

Capital and Surplus, - - \$3,000,000

JNO. B. PURCELL, President

JNO. M. MILLER, Jr., Vice-Pres.

W. M. ADDISON, Cashier

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City, County, School and Road, from Municipalities and Contractors

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JOHN KUCHLER, C. P. A., Vice-President

ERNEST E. WOODEN, C. P. A., Sec. and Treas.

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To Manufacturers and Capitalists

Contemplating the Establishment of Industrial Enterprises

Attention is called to the exceptionally favorable location of

NEWPORT NEWS, VA.

on Hampton Roads, fifteen miles from the sea. Deep water, railway and sea transportation facilities unrivaled. Climate salubrious. Apply to

W. B. LIVEZEY, President

OLD DOMINION LAND COMPANY
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Capital for Southern Industries**Peabody, Houghteling & Co.**

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Temporary Financing of States, Cities and Counties Pending Issuance of Bonds

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Largest Capital and Surplus of Any Financial Institution in Maryland or Any Southern State

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Resources Sixteen Millions

MERCANTILE TRUST AND DEPOSIT COMPANY OF BALTIMORE

A. H. S. POST, President

F. G. BOYCE, Jr., Vice-President



13 Yrs. Success Back of This Steel Equipment

For 13 years Merritt & Company have manufactured steel shelving, bins, lockers, etc. for customers all over the United States, including such well-known companies as:

1. Waterman Pen Company.
2. Canadian Pacific Railway Company.
3. Curtis Publishing Company.
4. Du Pont Powder Company.

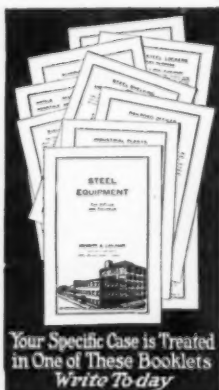
Merritt equipment has been satisfactory in these places, first, because its design and construction are as correct as can be made. But there is another reason, and that is Merritt Free Advisory Service.

MERRITT Free Advisory Service Steel Equipment

Every steel equipment problem is probably different in some respects from all others. We therefore make sure that Merritt Steel equipment is exactly suited to meet these requirements by the Free Advisory Service of our Engineering Department. We ask for full information, and then suggest the cheapest and best type of steel equipment that will meet *all* your needs.

You are sure before you buy of exactly what you are getting, what it will cost and why it will do your work.

If you will tell us what you want to accomplish with steel equipment, we will send you those of our special bulletins which will give you some suggestions in line with your needs, together with all other possible information. No obligation, of course.



MERRITT & COMPANY
51 N. Front St. Camden, N. J.
Manufacturers of Steel Factory and Office Equipment since 1889

March 1 for \$45,000 of street-improvement bonds. Address Mayor Britain.

Va., Boydston.—\$30,000 5 per cent. Bluestone Road Dist., Mecklenburg county, road bonds are voted. Address R. L. Thomasson, Skipwith, Va.

Va., Covington.—Election is to be held Mch. 15 to vote on bonds for water-works. Address Town Council.

Va., Dayton.—\$24,500 6 per cent. 20-year \$500 water, light and sewer bonds were voted Feb. 16. Date for opening bids not yet decided. J. L. Fuqua is Mayor.

Va., Dublin.—No sale was made of the \$5000 6 per cent. 30-year water and street-improvement \$500 bonds offered Feb. 20; dated Jan. 22, 1915. J. A. Gaines is Clerk of Council.

Va., Richmond.—Bids will be received until noon March 10 for \$534,000 4 per cent. 34-year improvement bonds; dated Jan. 1, 1915; denomination \$1000. Address Finance Comm., Barton H. Grundy, Chrmn. Further particulars will be found in the advertising columns.

W. Va., Man.—Bids will be received by W. R. Hinchman, Secy. Board of Education of Triadelphia Dist., Logan county, at Man, until 1 P. M. March 4 for \$40,000 5 per cent. 10-34 year \$1000 school bonds. Further particulars will be found in the advertising columns.

W. Va., Parkersburg.—\$250,000 5 per cent. 10-34-year school bonds have been purchased at par, a premium of \$1728.50 and accrued interest by Hoehler, Cummings & Prudden of Toledo, O.

W. Va., Parkersburg.—Bids will be opened Mch. 25 (not Mch. 11 as previously stated) for \$200,000 5 per cent. 10-year \$100, \$500 and \$1000 paving and sewer bonds. Address W. H. Smith, Bond Commr.

FINANCIAL NOTES

The Finance & Guaranty Co. of Baltimore has decided to increase its capital stock from \$450,000 to \$1,000,000.

J. P. Morgan & Co., it is announced, have bought from the Louisville & Nashville R. R. \$7,500,000 of first-mortgage bonds on the extension of the Lexington & Eastern Ry. to the Elkhorn coal fields.

The Mercantile Trust & Deposit Co. of Baltimore has bought \$1,750,000 of 5 per cent. one-year preferred debenture notes of the Merchants & Miners' Transportation Co., the proceeds of which will take care of obligations of the latter which mature soon.

William F. Stone, until recently Collector of the Port at Baltimore, has been elected assistant to the president of the Western National Bank of this city. He is also president of the Maryland Filling Machine Co. of Baltimore.

Drexel & Co. of Philadelphia, according to a late announcement, have bought \$5,000,000 of 3-year 6 per cent. notes of the United Gas & Electric Corporation, operating in New Orleans, Birmingham and other cities. The corporation has also sold to Bertron, Griscom & Co., Philadelphia, \$2,350,000 of 6 per cent. collateral trust bonds. This new financing will provide for meeting securities maturing this year and other requirements.

Frank A. Munsey of New York has sold his interest (more than 51 per cent. of the stock) in the Munsey Trust Co. of Baltimore to a syndicate headed by Eugene L. Norton, president of the company, which has its offices in the Munsey Bldg. The name of the company will be changed, and there are rumors current to the effect that it will be merged with some other company of Baltimore.

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Represents Troy Products in Philadelphia.

J. L. Keir, manufacturer's agent, Abbott Building, Philadelphia, has been appointed by the Troy Wagon Works Co. to represent its products in that city. He will handle motor-truck trailers, reversible traction-drawn wagons and dump wagons manufactured by the Troy Wagon Works Co. of Troy, O.

Ideal Heating & Plumbing Co.

Announcement is made that The H. F. Laquire Plumbing & Heating Co., 507 Mulberry St., Macon, Ga., has changed its name to the Ideal Heating & Plumbing Co. The new company will operate under the same management that has served the public efficiently for a number of years, and will continue to make a specialty of the installation of steam and hot-water heating.

Industrial Lumber Co. Elects Officers.

The following officers have been elected for the ensuing year by the Industrial Lumber Co. of Elizabeth, La.: R. M. Hollowell, president; Joseph Muth and E. A. Wilson, vice-presidents; F. W. Liskow, secretary, and S. L. G. Wilson, treasurer. The Industrial Lumber Co. manufactures Calcasieu long leaf yellow pine lumber and specializes in railroad and mining timbers.

Appoints District Sales Agent.

The Kerr Turbine Co. of Wellsville, N. Y., announces the appointment of John S. Huey, 418 Hibernia Bank Bldg., New Orleans, La., as its district sales agent for the States of Louisiana and Southern Mississippi. Mr. Huey was formerly connected with the Allis-Chalmers Manufacturing Co. of Milwaukee, Wis., and more recently with Woodward Wight & Co. of New Orleans.

To Represent in Brazil.

Eduardo DeA. Braga, who has been in this country as special delegate of the Ministry of Agriculture and the Ministry of Public Works for more than a year, has returned to Brazil. After making his formal report, it is stated Mr. Braga will represent the United States Purchasing Corporation, Woolworth Building, New York, being located at Rio de Janeiro, and will be prepared to

make reports through the Purchasing Corporation on the possibilities of marketing American-made goods, with special attention to electrical equipment.

Declares 6 Per Cent. Dividend.

Advices are received from the International Oxygen Co., 115 Broadway, New York, that at the last meeting of the Board of Directors the company decided to declare a dividend of 6 per cent. on all of its outstanding stock. This action, it is stated, was taken after careful consideration of the business and financial condition of the company. The company also reports that, while its present business is not all that could be desired, yet the surplus earned last year was highly satisfactory.

Special Equipment Installed.

The Peerless Machine Works of Florence, S. C., which recently installed considerable new machinery in its plant for building special machinery and general repairing as well as Oxy-Acetylene welding of broken parts, announces that with this additional equipment it is in a position to make attractive figures on contract work. Further emphasizing the saving in the cost of production, of which its customers will receive the benefit, the company reports that on account of its location, labor and expert mechanics are available at reasonable figures.

Resumes Consulting Engineering Practice.

Walter G. Kirkpatrick, recently City Engineer of Birmingham, Ala., and special engineer in the Executive Department of the Alabama Power Co., has opened an office at 703-704 Farley Bldg., Birmingham. He will again take up the engineering practice formerly conducted, including consultation, reports, valuation, design and supervision for water supply and filtration, sewerage and sewage disposal, garbage disposal, paving and hydro-electric power development.

Steam Pump Factory for Sale.

The Emerson Steam Pump Co.'s plant, machinery and property at Alexandria, Va., will be offered for sale on the premises, March 15, 1915, by Adam A. Weschler, auctioneer. Patent rights, steel, brick and cement factory building, 215x63 feet, fully

equipped pattern shop, machinery tools, complete and uncompleted pumps and parts, office furniture, etc., will be offered for sale separately and as a whole to the highest bidder. As the plant is located about 200 yards from a railroad freight station, good shipping facilities are provided.

Hughes Well-drilling Contracts.

After completing a 10-inch well 900 feet deep for the town of Clanton, Ala., the Hughes Specialty Well Drilling Co., 96 Ash-key Ave., Charleston, S. C., has been awarded a supplemental contract for three 8-inch shallow wells, one of which has been completed. Other contracts recently executed include the second of a series of wells, numbered 3 to 6, inclusive, at Newman, Ga., and a remarkable well, 12x8 inches and 917 feet deep, at Varnville, S. C., for the Big Sal-katchie Cypress Co., which is said to give a natural overflow of 1200 gallons per minute, having a pressure of 40 pounds at the surface.

Reports Increased Sales.

I. R. Bailey, sales manager of the Mechanical Goods Department of the Goodyear Tire & Rubber Co. of Akron, O., in writing of the growth in belting, packing and mechanical goods sales, states: "In the Goodyear Mechanical Goods Department are 21 men, whose combined experience in this field exceeds 126 years. One of these men has had 27 years of experience, and the average experience is six years per man. These are the directing minds in the department, and what they know and what they do are shown through the work of other experienced men in the products that are built to service standards and to meet specific needs."

Vilter Contracts in the South.

Sales of ice-making and refrigerating machinery are reported by the Vilter Manufacturing Co. of Milwaukee, Wis., to have been made to the following firms in the South: The Artesian Ice & Cold-Storage Co., Texas City, Tex., an 80-ton refrigerating plant; the Knickerbocker Ice Co., Baltimore, a 350-ton refrigerating plant and 40 coils of atmospheric type of ammonia condensers; the Henke Artesian Ice & Refrigerating Co., Houston, Tex., 8 water-cooler coils; the Alabama Polytechnic Institute, Auburn, Ala., 2½-ton refrigerating plant, and the C. C. Hartwell Co., Ltd., New Orleans, La., has

installed for the Texas Company, Houston, Tex., a 5-ton refrigerating plant furnished by the Vilter Manufacturing Co.

Seeking Southern Development Opportunities.

H. G. Palmer, president of H. G. Palmer & Co. of Yorkville, Ill., engineers-contractors, writes to the Manufacturers Record of his desire to investigate development opportunities in the South as follows: "We are desirous of becoming interested in some first-class railroad or water-power project in the South. We are prepared to take up the development, financing and construction of any property which convinces us of an absolute safe investment." He reports his company is associated with H. A. Orth, 6437 Eggleston Ave., Chicago, who is connected with a strong financial syndicate in the East; also that his company has recently completed the development and financing of the Central Illinois Railway Co., George E. Ackerman, president, Kaneville, Ill.

Capitalization Now \$200,000

The annual meeting of the Alexander Milburn Company, manufacturer of acetylene gas apparatus, was held last week at the company's plant, 1430-26 W. Baltimore St., Baltimore. In view of the recent increase in capitalization to \$200,000, the directorate was enlarged to five members. In spite of the general business depression of the past year, the financial report of the company showed a substantial gain in the condition of the business. In addition to its original lines of manufacture in high-power acetylene lights for engineering work, the company has in the past year made considerable progress in its newer lines of Oxy-Acetylene equipment for the metal-working industries and gas lighting plants for country homes. New lines are also being established in the mining field.

Texas Townsite Development.

In outlining its land-development project the East Beaumont Townsite Co., an association of several prominent citizens of Beaumont, Tex., reports having acquired 6000 acres of water front extending for nine miles along the Neches River immediately opposite the city of Beaumont. The object in acquiring this land, the company writes,

[Continued on Page 64.]

PROFIT AND LOSS STATEMENT.

Amount to credit of Profit and Loss, 1st January, 1914.....	\$9,934,913 66
Add:	
Securities received from insurance fund.....	1,343,113 80
Profit from sale of securities.....	610,092 65
Net credits, chiefly from the sale of this Company's interest in coal lands and the payment of royalties by the Mineral Railroad & Mining Company, lessee thereof.....	1,815,025 74
	\$13,703,145 55
Deduct:	
Debit balance of income January to June, 1914.....	\$351,938 98
Stock dividend of 40 per cent.....	7,737,000 00
Extra cash dividend of 10 per cent.....	1,334,250 00
	10,023,188 98
Amount to credit of Profit and Loss, 31st December, 1914.....	\$3,679,956 97

GENERAL BALANCE SHEET (CONDENSED), 31ST DECEMBER, 1914.

Assets.	
Property investment:	
Road and equipment.....	\$35,436,874 18
Securities owned.....	5,487,083 14
Miscellaneous physical property.....	8,510 00
Current assets:	
Cash.....	\$1,179,524 30
Miscellaneous accounts receivable.....	439,521 48
	1,619,045 68
Total.....	\$42,551,513 00
Liabilities.	
Capital stock.....	\$27,077,150 00
Long term debt.....	7,159,021 88
Current liabilities:	
Miscellaneous accounts payable.....	\$3,305 08
Matured interest and dividends.....	83,854 20
Unmatured dividends declared.....	1,083,184 00
Unmatured interest accrued.....	36,301 17
	1,216,704 45
Unadjusted credits.....	583,696 61
Corporate surplus:	
Additional to property through income and surplus since 1907.....	\$2,683,227 71
Appropriated surplus not specifically invested.....	151,755 28
	2,834,983 00
Profit and Loss.....	3,679,956 97
Total.....	\$42,551,513 00

GENERAL REMARKS.

The lease of your railway, property and franchises to the Pennsylvania Railroad Company, for 999 years, from 1st January, 1911, has been executed and placed in effect, and the payment of the rental prescribed by the lease was made by the Lessee, and disbursed by your Company.

By reason of the lease, this Company has withdrawn as a party to the agreements and plans under which the Employees' Voluntary Relief Department, the Pension Department and the Employees' Saving Fund are operated and maintained, the Lessee assuming all obligations of your Company with respect thereto.

The Lessee also assumes the insurance of your property, and the assets in the Insurance Fund were therefore placed in your Treasury.

During the period since 1st January, 1911, in which the lease was prevented from becoming operative, your Company continued to directly collect and apply all the earnings and income from your railway, property and investments, and to make the necessary additions and betterments to the railway and equipment. Therefore, when the lease was executed and made effective an adjustment between the Lessor and Lessee of these items, and of the current and deferred assets and liabilities, was required. A settlement of the accounts for this period was accordingly presented to the Board by a Special Committee consisting of Messrs. Newcomer, Jenkins and Tatnall, to whom the matter was referred. The settlement recommended by the Committee had been duly examined and its correctness certified by Messrs. Price, Waterhouse & Company, Chartered Accountants, and having been approved by the Board, has been consummated.

In carrying out the accounting settlement and adjustments above referred to, it was necessary to sell a portion of your Treasury assets. From the profits derived from that source, as well as the securities received from the Insurance Fund, and the net credits obtained chiefly from the sale of this Company's interest in the coal lands hereinafter referred to, and the payment of royalties by the Mineral Railroad & Mining Company, Lessee thereof, the amount to the credit of Profit and Loss was increased from \$3,534,913.66 on 31st December, 1913, to \$13,703,145.55, against which were charged the stock dividend of 40 per cent., the extra cash dividend of 10 per cent., and the debit balance of income from January to June, 1914, so that the amount to the credit of Profit and Loss on 31st December, 1914, was \$3,679,956.97.

The securities sold for the foregoing purposes were \$241,000 Philadelphia & Erie Railroad Company General Mortgage Six Per Cent. Bonds at 108.944 per cent. and interest; \$46,000 Pennsylvania Company Registered Three and One-half Per Cent. Guaranteed Trust Certificates, Series "A," at 86 per cent. and interest; \$2,535,000 Susquehanna Coal Company Five Per Cent. Gold Bonds at 98.40 per cent. and interest; 10,000 shares of Stock of the Erie & Western Transportation Company at par; 13,000 shares of Common Stock of the Norfolk & Western Railway Company at 97½ per cent. per share, and 5000 shares of the Preferred Stock of that Company at 83 per cent. per share.

The necessary assignments were executed transferring to the Pennsylvania Railroad Company, Lessee, the leases of the Elmira & Williamsport Railroad Company, Shamokin Valley & Pottsville Railroad Company and the Lykens Valley Railroad & Coal Company, and the arrangements under which your Company operated the Elmira & Lake Ontario Railroad Company, the York, Hanover & Frederick Railway Company and the York Branch, and the Lessee has assumed the obligations of your Company thereunder and made the necessary rental payments required by the terms thereof.

With decreasing traffic and the unsettled business and financial outlook, accentuated by the European War, improvement work was necessarily limited to urgent necessities.

The expenditures for Additions and Betterments during the year were principally on account of the installation of Car Battery charging facilities at Union and Calvert Stations, Baltimore, purchase of land at Canton, and freight yard extension at York, Pa.

The total expenditures for Additions and Betterments during the year, less cash credits and credit account of equipment retired, amounted to \$94,784.28, all of which were charged to Capital Account.

Under the terms of the lease all future expenditures for road and equipment approved by the Board of Directors of your Company will be paid by the Pennsylvania Railroad Company, Lessee, which Company will be reimbursed out of the moneys in your Treasury to the extent that the same are available, or through the issue of stock or bonds, or both, of your Company.

An increase of 40 per cent. was made in the Capital Stock of your Company during the year and issued to the stockholders, to represent a portion of the expenditures theretofore made for road and equipment properly chargeable to Capital Account, which was duly approved by the State Commissions of Maryland and Pennsylvania.

The sale was consummated to the Susquehanna Coal Company of the interests of the Shamokin Valley & Pottsville Railroad Company, Northern Central Railway Company, and the Mineral Railroad & Mining Company in the coal lands in the vicinity of Mt. Carmel and Shamokin, Northumberland County (referred to in the last annual report), which were leased by your Company from the Shamokin Valley & Pottsville Railroad Company for 999 years terminating on 27th February, 2862, and sublet to the Mineral Railroad & Mining Company for the unexpired period of the said lease, and the consideration of \$3,126,778.08 has been paid by the Susquehanna Coal Company, \$3,126,500 in its 5 per cent. five-year gold bonds, and the balance in cash.

The \$2,000,000 of Shamokin Valley & Pottsville Railroad Company Bonds held by your Company were surrendered and cancelled, and the mortgage securing the same, which was a lien on the railroad of that Company and on the said coal lands, was satisfied of record.

By order of the Board,

SAMUEL REA, President.

A copy of the Annual Report has been mailed to each stockholder, and additional copies may be obtained by applying to or addressing the Secretary, Executive Office, Broad Street Station, Philadelphia, Pa.; H. D. Thompson, Assistant Secretary, General Office, Southeast corner Calvert and Center Streets, Baltimore, Md.; J. W. Marshall, Assistant Treasurer, 85 Cedar Street, New York City, N. Y.

LEWIS NEILSON, Secretary.

THE Northern Central Railway Co. GENERAL OFFICE.

Baltimore, Md., 15th February, 1915.

The Board of Directors herewith submit to the Stockholders of the Northern Central Railway Company a synopsis of their Annual Report for the year 1914:

INCOME STATEMENT FOR THE SIX MONTHS ENDING 30TH JUNE, 1914.

Rail operations—revenues.....	\$6,061,643 38
Rail operations—expenses.....	5,673,769 74
Net revenue—rail operations.....	\$387,873 64
Auxiliary operations:	
Total revenues.....	\$5,265 52
Total expenses.....	1,801 10
Net revenue.....	3,584 42
Net railway operation revenue.....	\$391,458 06
Railway tax accruals.....	227,630 95
Railway operating income.....	\$163,827 11
Other income:	
Rent income.....	\$211,970 50
Income from dividends and interest on investments.....	461,449 39
Miscellaneous income.....	189,806 25
	863,226 14
Gross income.....	\$1,027,053 25
Deductions from gross income:	
Deductions for lease of other roads.....	\$62,173 54
Interest deductions for funded and unfunded debt.....	205,634 40
Hire of equipment, rent deductions and miscellaneous deductions.....	305,809 29
	573,617 23
Net income.....	\$453,436 02
Appropriations to sinking and other reserve funds.....	\$31,875 00
Dividend appropriations.....	773,700 00
	\$805,575 00
Deficit transferred to the debit of Profit and Loss.....	\$351,938 98

INCOME STATEMENT FOR THE SIX MONTHS ENDED 31ST DECEMBER, 1914.

Income:	
Rental received from lease of road.....	\$1,259,341 50
From which deduct:	
Interest on funded debt.....	\$173,657 50
Organization expenses.....	2,500 00
	176,157 50
Total deductions.....	
Net income.....	\$1,083,184 00

From the Net Income the following has been provided for:
Dividend of 4 per cent., payable 15th January, 1915..... \$1,083,184 00

Classified Opportunities

MEN WANTED

SALESMEN CALLING ON SAWMILLS, etc., wanted in every State by established manufacturer; big commission; samples carried in pocket; prices lower and goods better than others; well and favorably known. You can more than make your expenses on this. Reference required. R. H. Wilson, Sales Mgr., 325 Locust St., St. Louis, Mo.

WANTED—Practical tinner with few hundred dollars to accept permanent position with us as shop manager; work simple. Address T. W. Glover, Tubular Bucket Company, Guntersville, Alabama.

IF QUALIFIED for executive, technical, mechanical, professional or administrative position carrying salary between \$2500 and \$12,000, write undersigned counsel, through whom strictly confidential preliminaries will be negotiated for important appointments. Send address only for prefatory details. R. W. Bixby, Lock Box 134-J, Buffalo.

CONTEMPLATE starting a knitting mill to manufacture children's socks and stockings. Anxious to discuss proposition with experienced mill manager controlling some capital and capable of taking charge. P. O. Box 1443, Atlanta, Ga.

AGENCIES WANTED

WANT to get in touch with manufacturers of agents' specialties for mail-order business and material that can be handled by manufacturers' agent. Fred T. Hildt, Flynn-Ames Building, Muskogee, Okla.

MIDDLE-AGED MAN, without funds, sober and industrious, well recommended as to character and habits, desires to act as manufacturers' agent in Washington and surrounding territory. Address James R. S. Dickens, P. O. Box 1209, Washington, D. C.

WANTED—Sales agency for all lines pertaining to builders' specialties; East Tennessee as territory; can furnish satisfactory references to interested concerns; modern warehouse facilities. Address Daniel Briscoe, Jr., 325-327 State St., Knoxville, Tenn.

SITUATIONS WANTED

WANTED—Credit Manager and Correspondent of experience and ability desires to make a connection with a large manufacturer or jobbing house. References and credentials gladly furnished. Address No. 1701, care Manufacturers Record, Balto., Md.

EXPERIENCED AUDITOR AND ACCOUNTANT desires to make connection with responsible firm or corporation; now employed, but wish to make change; can please you with best of service. Address No. 1708, care Manufacturers Record, Balto., Md.

CONTRACTOR'S SUPERINTENDENT, 16 years' experience buildings, bridges, general construction, can please you. Address No. 1706, care Manufacturers Record, Balto., Md.

BUSINESS EXECUTIVE of good address and personality is open for engagement with progressive concern; 30 years of age and married; 10 years in the manufacturing business; specialist in credits, collections, accounting and systematizing; references. Address No. 1707, care Manufacturers Record.

AN EXPERIENCED and capable coal man in the prime of life, knows the business from A to Z, wants a position; can handle an office, sell on the road, or manage a coal works; have sold coal and coke from Omaha to Boston and know the markets and transportation; have opened up coal works and disposed of the output; married man of family; temperate habits. Address No. 1683, care Manufacturers Record, Balto., Md.

EDUCATIONAL

RENSSELAER POLYTECHNIC INSTITUTE, TROY, N. Y.—Courses in Civil, Mechanical, Electrical and Chemical Engineering and General Science, leading to the degree of Civil Engineer (C.E.), Mechanical Engineer (M.E.), Electrical Engineer (E.E.), Chemical Engineer (Ch.E.), and Bachelor of Science (B.S.). Also special courses. Splendidly equipped new engineering laboratories. Send for catalogue to Registrar.

MODELS

MODELS MADE FOR INVENTORS.—General machine work. Designing and perfecting. Developing automatic devices and machinery. In a position to do all kinds of light tool and machine work. Prices reasonable. Estimates cheerfully given. Ideal Machine Works, 64 Ann Street, New York City.

MANTELS AND TILE FLOORS

NORTHCROSS WOOD MANTELS AND TILE FLOORS for every purpose. Sold direct from factory to your home. All orders receive prompt attention. Every contractor should have a copy of our new catalog showing the largest line in America. Mailed free. W. J. Northcross Mantel Company, 73 Union Ave., Memphis, Tennessee.

RATES AND CONDITIONS

Rate 20 cents per line per insertion. Minimum space accepted, four lines. Maximum space accepted, 25 lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 18c. per line; 300 lines, 16c. per line; 500 lines or more, 15c. per line.

ADVERTISING LITERATURE

LETTERS AND ADS. WRITTEN with both punch and prestige. Reduced price on first order. Write me today. E. M. Dunbar, 1823 Rowena St., Boston, Mass.

AD. MAN DAVISON writes letters, folders, booklets, newspaper or magazine ads. for advertisers who demand big and positive results. You want that kind. Write him fully today, enclosing your present literature for free opinion. Ad. Man Davison, 504 Finance Building, Kansas City, Missouri.

LETTERHEADS, PRINTING, ETC

5000 GOOD Bond Letterheads, \$7.50. Envelopes same. Multigraphed letters of quality at low prices. 1000 each Letterheads and Envelopes, best bond, \$4.50. Direct Advertising Co., Akron, Ohio.

LITHOGRAPHED Letterheads; at low cost—5000, \$2 per M; 10,000, \$1.75 per M; 25,000, \$1.40 per M. Nominal engraving charge on first order; quality guaranteed. Send for samples. Monach Lithographing Co. (Department E), Minneapolis, Minnesota.

CAPITAL WANTED

WANTED—Capital for manufacturing counter scales with simple device for placing weight by touching a button. Address No. 1703, care Manufacturers Record, Balto., Md.

COLLECTIONS

SEND YOUR TEXAS COLLECTIONS to the Craig Mercantile Agency, Houston and Dallas.

BUSINESS OPPORTUNITIES

\$75 STARTS YOU IN BUSINESS selling adjustable form units for all kinds of concrete work, earning from \$75 to \$150 weekly. Our \$150 outfit has a capacity equal to another one form to each size make, costing \$43.25. Act quick before your territory is gone. Frick Manufacturing Co., Fricks, Pa.

FOR SALE—Half interest limestone quarry, on R. R. in Alabama; lime 99% pure; rock inexhaustible; gravity proposition; good market for lime; concrete screenings; good freight rates. For full particulars write Theo. Pouli, c/o Duncan Drug Co., Birmingham, Ala.

WANTED—To correspond with parties who have experience and some capital, in regard to establishing a knitting mill at Draper, Va. If interested, act at once. Address Lock Box 1, Draper, Va.

EXPERIENCED MAN in farm land subdivision, having one of the best propositions in the South, would like to correspond with parties desiring to invest in safe, sound, legitimate proposition and assist in financing same. Address No. 1704, care Manufacturers Record, Baltimore, Md.

WE WANT competent young man to fill position of secretary and treasurer for corporation; salary \$150 per month, but must take \$10,000 worth of the stock. The corporation and management is first-class. Address No. 1706, care Manufacturers Record.

TAX PROBLEM SOLVED.—Confidential proposition submitted capitalists and property owners by letter suggesting highly profitable and absolutely safe investment free from burdensome taxation. Johnson's American & Foreign Real Estate Exchange, 926 Pennsylvania Ave., Washington, D. C.

FOR SALE—Hardware store, furniture and undertaking establishment, flour mill, farms and timber, factory sites, Md. and Penna. Write W. E. Anderson, White Hall, Md.

WE ARE CONSULTING ENGINEERS backed by a competent staff and a modern machine plant that can save you money if you are interested in designing or building special machinery, special tools, experimental work, models, etc. If you have patented an article which is not perfected, a consultation with our expert mechanic is at your command. We are giving attention to developing patents and marketing patented articles, especially labor-saving appliances. Our list of office appliances is available. We invite correspondence and will give estimates promptly and cheerfully. Specialty Manufacturing-Sales Corp., Norfolk, Va.

WAREHOUSE FOR RENT

KANSAS CITY WAREHOUSE FOR RENT.—Switch property, 4-story brick, 32,000 ft. floor space; excellent location. Having purchased larger building, have unexpired lease to sub-let. Will lease all or part. Logical distributing point for agricultural district. The business is there this year. Marietta Chair Co., Marietta, Ohio.

FACTORY SITES

BALTIMORE FACTORY AND TERMINAL SITES.—Statement of Asa G. Candler, President The Coca-Cola Co.: "Investigation convinced us that Baltimore is not only the commercial metropolis for Southern trade, but that it affords shipping opportunities both by water and rail for domestic and foreign traffic superior to any of the great cities in any section of the United States." Locate in Baltimore and derive these advantages. We can provide accommodations to meet your requirements. Wm. Martien & Co., 3 N. Calvert St., Baltimore, Md.

INDUSTRIAL PLANTS FOR SALE

MATTRESS FACTORY

FOR SALE—A complete mattress factory; original cost \$7500; will sell to quick buyer for \$2000. This is a big bargain to a party who wishes to engage in the mattress business. Address J. Lee Etheredge, Augusta, Ga.

FACTORY BUILDING

FOR SALE at Muncie, Ind.—One-story brick factory building, 40x125; steam heat; electric power; Belt R. R.; cost \$6900; price \$3500. Terms. I. N. Bullington, Huntington, W. Va.

MINERAL AND TIMBER LANDS, WATER POWERS AND MISCELLANEOUS PROPERTIES

35,000 ACRES Tenn. hardwoods, also small tracts up to largest, in all Southern States. Cut-over lands, ranches, wild lands. If wanting to buy or sell, write me. I may supply your wants. W. W. Marmaduke, Washington, Ind.

I HAVE timber, coal and farm land, all sections. Some real bargains. See me before buying or selling. Wanted, large plantations to exchange for coal land, income and investment properties, all sections. Arthur M. Connor, Rooms 223-224 Oxford Bldg., Washington, D. C.

WATER POWER

WATER-POWER FOR SALE.—The fine water-power on Catawba River at Hickory, N. C., can be purchased, if at once, at almost any old price for immediate development. It is the only large water-power in the State now open for sale and development. For particulars address Z. B. Buchanan, Real Estate Agent, Box 448, Hickory, N. C.

WHITE MARBLE QUARRY

FOR SALE—The whitest white marble in the country. The quarry is inexhaustible and is within 50 yards of a railroad. Address A. M. Hughes, 3310 Park Pl., Washington, D. C.

LITHOGRAPH STONE

FOR SALE—LITHOGRAPHERS' STONE. 342 acres of land in one of the upper counties of Tennessee, containing unlimited quantities lithograph stone, located about 1 mile from railroad. Particulars about test of stone, etc., address Capt. W. N. Hughes, U. S. A., 523 1/2 Broadway, Nashville, Tenn.

COAL LAND

POCAHONTAS COAL LAND.—To settle a copartnership will sell about 7000 acres of celebrated Pocahontas coal and timber land adjoining the Pocahontas Coal Company land in Mercer and Raleigh counties, West Virginia, very near Virginian and C. & O. railroad. Owner, Box 248, Hinton, W. Va.

TIMBER LAND FOR SALE

HARDWOOD TIMBER FOR SALE.—5000 acres highest quality poplar, oak, chestnut, basswood. Lies healthiest section N. C. Can log all down grade to one mill site, one watershed, 10,000 feet per acre. Price low, considering quality and all other advantages. Jas. A. Martin, Johnson City, Tenn.

FOR SALE—TIMBER LANDS.—From 3,000,000 to 300,000,000 feet. D. D. Carter, 610 Carter Bldg., Hattiesburg, Miss.

CROSSTIES AND PILING

CONTRACTORS, ATTENTION!—For long or short piling, or timber suitable for same, located on deep water on the Georgia coast, also crossties, or timber for same, correspond with R. K. Walker, Citizens' Trust Building, Savannah, Ga.

TIMBER FOR SALE

FOR SALE—40,000,000 feet of good timber, with sawmill and complete outfit; very low freight rates to Gulf ports; very cheap and on easy terms. James A. Terry, Mobile, Ala.

REAL TIMBER BARGAIN.—50,000,000 ft. 70% N. C. pine, poplar and cypress, all original growth; on Southern R. R. in South Carolina. Liberal terms and low price. J. P. Mulherin (owner), Augusta, Ga.

FOR SALE—Hardwood timber on 5000 acres of mountain land immediately on railroad; principally oak, chestnut, hemlock and poplar; pay for as cut and sold. Address North Carolina Tail & Mining Co., Hewitts, N. C.

STUMPAGE AND SAWMILL

FOR SALE—North Carolina pine stumpage, 21,000,000 feet estimated; complete mill outfit, 30,000 feet board capacity, mill in operation; on railway; timber average within two miles of mill, easily handled. On account of owner's health will sell cheap. Write us for particulars. Carrington, Stevens & Co., Lynchburg, Va.

NURSERY STOCK

\$10,000 WORTH OF NURSERY STOCK GIVEN AWAY.—To introduce our high-grade, true-to-name, sure-to-bear, easy-to-sell fruit trees, we are offering for sale 1000 shares of stock of \$10 each, and with each share of stock we give a bond good for \$10 in nursery stock. Applicants must be white, reliable, and owners of real estate. Write today. Willis Valley Nursery Company, 902-3-4 Jefferson Co. Bank Bldg., Birmingham, Ala.

FRUIT, FARM AND TRUCK LANDS

ALABAMA

ALABAMA CUT-OVER PINE LANDS.—2000 acres, \$15,500. 12,500 acres and 34,000 acres at \$5.75 per acre; near railroad main line; 50 to 70 bushels corn raised to acre; excellent for stock or subdivision. J. B. Robertson, 56 North Royal, Mobile, Ala.

GOOD INVESTMENT.—We offer for sale 13,000 acres of best farm, fruit and stock-raising land in solid body, situated only a short distance from Bay Minette in Baldwin county, Alabama.

This land lies well, being level to slightly rolling, with several streams of running water through the tract, making it very desirable for colonization purposes.

This tract can be purchased for the low price of \$7 per acre. Will arrange terms. T. L. Moore & Co., Room 109 Masonic Temple, Mobile, Alabama.

ARKANSAS

FOR SALE—125 acres good valley land; 70 cleared; balance good timber; two houses, with outbuildings; good water; and spring; family orchard; 12 acres wheat; good strong land; \$16 per acre. H. McCready, owner, Sharp, Ark.

FLORIDA

FREE—William L. Larkin's booklet, "The Truth About Florida," with a six-months' subscription (at one-half regular rates) to The Indian River Farmer. Fruit growers, truckers, general farmers, folks interested in Florida, send 25c. to The Indian River Farmer, V-1, Vero, Fla.

THE PALATKA FARMS COMPANY of Palatka, Florida, offers to homeseekers the very superior advantages of splendid soil, adapted to potatoes, corn and trucking, or that for oranges and grapefruit, or for combination of both, with location unsurpassed, lying along the beautiful St. Johns River, 2 miles of Palatka, an up-to-date city of 8000 population. It boasts of electric-light and gas plants, four railroads and cheap river transportation. Write for literature. P. J. Becks, Palatka, Fla.

SOUTH FLORIDA FRUIT AND TRUCKING LANDS.—We are wholesalers of Southern Lands and have choice South Florida lands along the line of the Florida East Coast Railroad which we are offering at attractive prices. These are splendid lands for colonization purposes, being fertile and well located. Write us for particulars. Albert Fendig & Co., Brunswick, Georgia.

HAVE ANY KIND OF LAND to be found in South Florida and am too old to improve. Write me. W. H. Cox, M.D., Brooksville, Fla.

I OFFER FOR SALE for sixty days some of the finest fruit and farm lands in Folk county, situated near the city of Lakeland, the best town in the best county in the State of Florida, in tracts of 5000 to 18,000 acres. For quick sale will sell at much less than actual value. It is on railroad. Geo. C. Barton, Lakeland, Fla.

Classified Opportunities

PINEY POINT, the Deep-Water City. Other towns and would-be towns have to fight and wait for appropriations to get deep-water facilities.

Nature made it for us, and in addition gave us immunity from frost, for just north of Piney Point is the broad expanse of Tampa Bay.

Teracela Island and the Manatee River towns and farms have good water protection, but not deep water. We have both. Also an abundant supply of artesian water for all purposes.

Nature laid the foundation. We are doing the rest. Will you join us? The Piney Point Land & Improvement Co., Palmetto and Piney Point, Fla. Jno. W. Jackson, Manager.

HAVE 23,500 acres of high (no swamps) land in Orange county, Florida, a few miles west of Orlando in the Lake region. This land can be bought right at this time. Write Chandler Campbell, Hamburg, Iowa.

FOR SALE—Timber, turpentine, grazing lands, colonization tracts, and farms in all parts of South; dividend-paying orange, grapefruit and pineapple groves; truck and farm lands, rural water-front and town residential properties, improved and unimproved properties of all kinds, boats and yachts in Florida. Write for our lists. Waters Realty Co., Walton, St. Lucie Co., Fla.

FOR SALE—Water-front in small tracts on Manatee River, Florida; soil survey shows ideal citrus soil; fine home sites; boating, fishing; close to cities, Tampa Bay and Gulf resorts; flowing wells. Address Manatee River Land Co., Inc., 101½ Franklin St., Tampa, Fla.

FLORIDA REAL ESTATE OF MERIT.—Let me tell you about our bungalow sites, 10 to 40-acre tracts for citrus fruit, and the finest country clubhouse in Florida. Literature free. Address J. F. Darnelle, Box 65, Fort Monroe, Va.

LOUISIANA

FOR SALE—A sugar plantation containing 1250 acres, 800 of which are in cultivation of cane and corn. Have 40 head of mules, implements, etc. Land contains large homes for owners, cabins, stables, barns, and everything complete for operation of one of the finest pieces of land in Louisiana. Railroad through property. For particulars relative to price and terms address No. 1679, care Manufacturers Record, Balto., Md.

MARYLAND

FOR SALE—Country estates and farms, adjacent to Baltimore city, in Baltimore, Howard, Harford and Anne Arundel Co. W. E. Ferguson, 217 St. Paul St., Baltimore, Md.

Banner Dairy Farm.
Close to Washington, D. C., owned by

DR. HARVEY W. WILEY.

230 fertile, well-watered acres. Good dwelling and complete outbuildings. Ashbridge Realty Co., exclusive Agts., Washington, D. C. Virginia and Maryland country property of the better class.

VIRGINIA

THE best agricultural and stock farm of 2700 acres in Eastern Virginia, on navigable tidewater, including 1700 acres of fine timber; brick barns, etc. Green & Redd, Richmond, Va.

VIRGINIA ESTATES.—Colonial homes, plantations, farms, suburban homes, Albemarle pippin orchards, timber lands. Write us for what you want. We have it. R. N. Flanagan & Co., Charlottesville, Va.

VIRGINIA FARMS.—Fine blue grass, grain and dairy farms in the heart of the Piedmont section of Virginia, Culpeper, Fauquier and adjoining counties. Ask for catalogue. The L. M. Allison Co., Real Estate Brokers, Remington, Va. Established 1895.

ESTABLISHED 1893.—From long experience we are thoroughly familiar with lands and values and have some genuine bargains listed. Tell us what you want and let us submit some special offerings. Southern Farm Agency, Lynchburg, Virginia.

EQUIPMENT WANTED

WANTED—10-ton double-cylinder Kelly Springfield second-hand road roller; must be practically good as new. State best price. 56 and 60-lb. relay rails, 15-ton lots and up. 10-ton locomotive crane. Box 294, Atlanta, Ga.

MACHINERY AND SUPPLIES

FOR SALE—Wood planer and matcher; cost \$550; in elegant condition; will sell machine very cheap. J. Catherman, Beaver Springs, Pa.

FOR SALE—15-horse International Harvester, gasoline engine, complete with tanks and equipped with magneto and friction clutch; thorough condition; price reasonable. J. H. Williams, Wallace, N. C.

OPEN-HEARTH STONE

FOR SALE—20,000 pounds open-hearth steel, bundles (flat) 12-foot lengths, 3½ inches wide, ½ inch thick. For metal stamping, etc. Price one cent a pound, f. o. b. Greensboro, N. C. C. G. Wright, Greensboro, N. C.

FINANCIAL

AN UNUSUAL OPPORTUNITY to secure an interest in a splendidly equipped operation in the Pocahontas field, working the original No. 3 seam, 5 feet thick. The management is in the hands of the wealthiest and most successful operators in the field. Over \$400,000 has been spent on the improvements, and the works have never lost a day for want of orders. The large stockholders and directors represent a tonnage of several millions annually and a wealth of many millions of dollars.

Particulars as to the directors and stockholders will be furnished to bona-fide interested parties.

The unusual conditions prevailing for the past year compels the owner (a non-resident) to sacrifice the stock, which will be sold for \$50 per share, par value \$100, and it cost that. Terms easy; \$10 per share down and \$10 per share per month. Certificates in one-share lots or any number. Brokers protected. Address No. 1664, care Manufacturers Record, Balto., Md.

PATENTS FOR SALE

FOR SALE—A nice patent on a spectacle case and pencil holder combined. For particulars address Mrs. D. C. Parsons, Fisher, N. C.

PATENT ATTORNEYS

PATENTS THAT PROTECT AND PAY. Advice and books free. Highest references. Best results. Promptness assured. Send sketch or model for free search of Patent Office records. Trade-marks registered. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

EUGENE C. BROWN, ENGINEER AND PATENT LAWYER, Suite 40 Victor Building, Washington, D. C. Member Bar U. S. Supreme Court. Patents and Trademarks. Inventions are considered both from Engineering and Legal standpoints in my prosecution of patents. An experience of over 9 years as Examiner in U. S. Patent Office and over 6 years as Patent Expert in important patent suits are my especial qualifications. Reports upon validity and infringement. Send sketch of invention for advice.

VALUABLE INVENTIONS justify only best legal service. Consult Vernon E. Hodges, Attorney-at-Law, Barrister Bldg., Washington, D. C. Practice before the U. S. Supreme Court; all Circuit Courts; Courts of the District of Columbia, and the U. S. and Foreign Patent Offices exclusively. Continuous practice since 1886. Extensive experience with all classes of invention, representing lawyers, manufacturers and inventors in every State.

"WORDS OF VALUE TO INVENTORS" sent free; should be carefully read before applying for patents. John R. Woodworth, Registered Atty., Ward Bldg., Wash., D. C.

PATENT YOUR IDEAS.—\$9000 offered for certain inventions; book, "How to Obtain a Patent" and "What to Invent," sent free upon request; send rough sketch for free report as to patentability. We advertise your patent for sale at our expense. Chandler & Chandler, patent attorneys, 978 F St., Washington, D. C.

C. L. PARKER, Patent Lawyer, formerly member Examining Corps U. S. Patent Office, 924 G St., Washington, D. C. Patents secured. Patent suits conducted. Reports on the patentability of inventions, the scope and validity of patents, and whether any process or machine infringes existing patents. Reference to prominent manufacturers and pamphlet of instructions furnished upon request.

PATENTS.—Herbert Jenner, patent atty. and mechanical expert, 606 F St., Washington, D. C. I report free of charge if a patent can be had and its exact cost. Send for circular.

PATENTS secured or Fee returned. Send sketch for free report as to patentability. Guide book and what to invent, with valuable list of inventions wanted, sent free; \$1,000,000 offered for inventions. Patents secured by us advertised free in World's Progress; sample free. Victor J. Evans & Co., 12 Ninth St., Washington, D. C.

Here's An Excavator Weighing Only 12 Tons

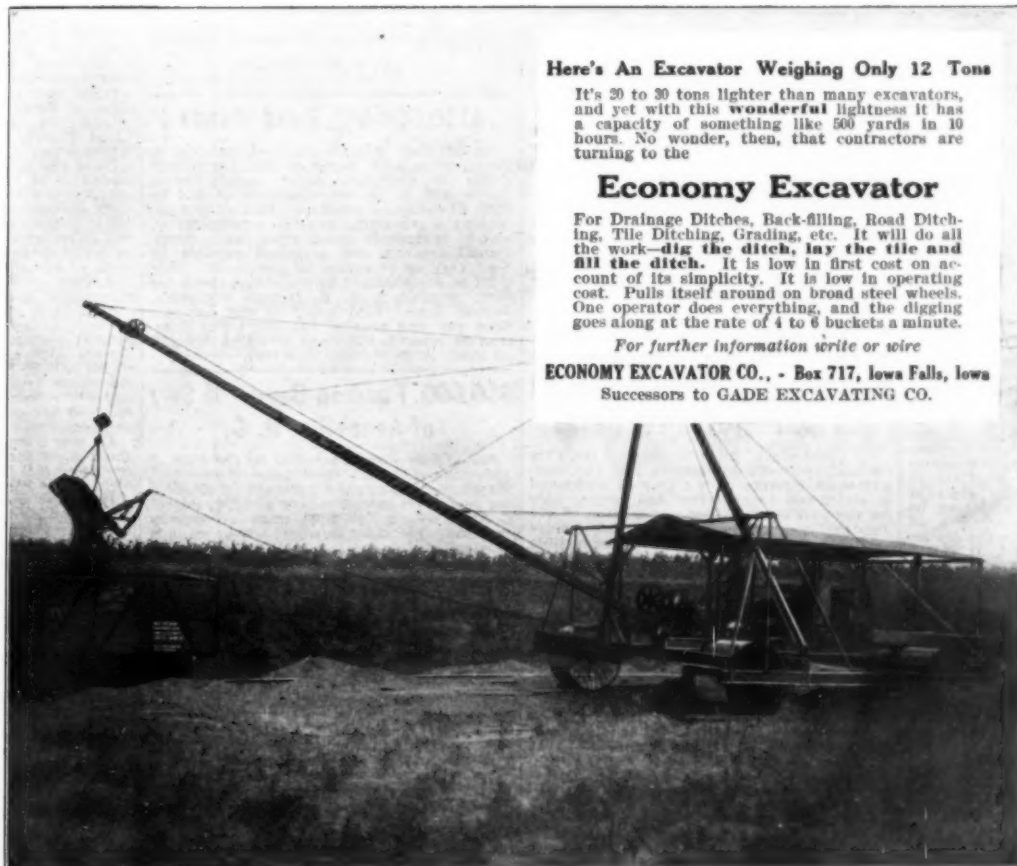
It's 20 to 30 tons lighter than many excavators, and yet with this wonderful lightness it has a capacity of something like 500 yards in 10 hours. No wonder, then, that contractors are turning to the

Economy Excavator

For Drainage Ditches, Back-filling, Road Ditching, Tile Ditching, Grading, etc. It will do all the work—dig the ditch, lay the tile and fill the ditch. It is low in first cost on account of its simplicity. It is low in operating cost. Pulls itself around on broad steel wheels. One operator does everything, and the digging goes along at the rate of 4 to 6 buckets a minute.

For further information write or wire

ECONOMY EXCAVATOR CO., - Box 717, Iowa Falls, Iowa
Successors to GADE EXCAVATING CO.



PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS

GOVERNMENT PROPOSALS

PROPOSALS FOR STEEL ANGLES, Horseshoes, Toe Calks, Horseshoe Nails, Pipe Fittings, Lead Pipe, Sheet Brass, Brass Tubing, Sheet Copper, Bar Copper, Bronze Bars, Cotter's, Screws, Tacks, Hooks and Eyes, Rivets and Bolts, Door Bolts, Door Catches, Locks, Hinges, Oilers, Tinner's Shears, Breast Drills, Snatch Blocks, Steel Tapes, Stepladders, Hammer Handles, Lantern Globes, Leather Belting, Hose, Packing, Gaskets, Bunting, and Lye. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M. March 10, 1915, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and general information relating to this Circular (No. 903) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La., and 1086 North Point Street, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala.; and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill.; and Commercial Club, Tacoma, Wash. F. C. BOGGS, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

DEPARTMENT OF THE INTERIOR, Washington, D. C., February 19, 1915. Sealed proposals in duplicate will be received at this Department until 2 P. M. Wednesday, March 17, 1915, for the furnishing of 102 steel window sash and frames, steel casings, wired glass and operating devices, including glazing, and for furnishing and installing 14 large clearstory windows and operating devices for the Pension Office Building, Washington, D. C., in accordance with plans and specifications for the work, copies of which may be obtained on application to the chief clerk of the Department. The right is reserved to reject any and all bids, or to accept or reject any part thereof, in the discretion of the Department. Proposals should be securely enveloped, marked "Proposal for windows, Pension Office Building," and addressed to the Secretary of the Interior. BO SWEENEY, Assistant Secretary.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., February 23, 1915. Sealed proposals will be opened in this office at 3 P. M. April 2, 1915, for the construction complete (including mechanical equipment, lighting fixtures, and approaches) of a one-story and basement stone-faced building of 9,100 square feet ground area, fireproof construction, composition roof, for the United States postoffice at Plainfield, N. J. Drawings and specifications may be obtained from the custodian at Plainfield, N. J., or at this office, in the discretion of the Supervising Architect. O. WENDEROTH, Supervising Architect.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., February 23, 1915. Sealed proposals will be opened in this office at 3 P. M. April 6, 1915, for the construction complete (including mechanical equipment, interior lighting fixtures, and approaches), of the United States postoffice at Live Oak, Fla. Drawings and specifications may be obtained from the custodian of site at Live Oak, Fla., or at this office, at the discretion of the Supervising Architect. O. WENDEROTH, Supervising Architect.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., February 15, 1915. Sealed proposals will be opened in this office at 3 P. M. March 29, 1915, for the construction complete (including mechanical equipment, interior lighting fixtures, and approaches), of the United States postoffice at Smyrna, Del. One-story and basement building; ground area, 2200 square feet; first floor and ceiling fireproof; stone and brick facing with wood cornice, etc.; tin roof. Drawings and specifications may be obtained from the custodian of site at Smyrna, Del., or at this office in the discretion of the Supervising Architect. O. WENDEROTH, Supervising Architect.

TREASURY DEPARTMENT, Bureau of Engraving and Printing, Washington, D. C., February 15, 1915. Sealed proposals will be received at this office for furnishing supplies during the fiscal year beginning July 1, 1915, as follows: On Monday, April 5, 1915, at 2 P. M., Paper, and Paper Box Blanks; on Monday, April 12, 1915, at 2 P. M., Dextrine, Textiles, Engravers' Supplies, and Dry Colors. The right is reserved to reject any or all bids or parts of bids. Blank forms with specifications for proposals and further information will be furnished on application to JOSEPH E. RALPH, Director of Bureau.

U. S. ENGINEER OFFICE, Galveston, Texas, February 2, 1915. Sealed proposals for dredging at Fort Aransas, Texas, and in the Channel from Aransas Pass to Corpus Christi, Texas, will be received at this office until 12 o'clock noon March 3, 1915, and then publicly opened. Information on application. C. S. RICHE, Lieut.-Col., Engineers.

PROPOSAL ADVERTISING INFORMATION

RATE: 20 cents per line per insertion.

PUBLICATION DAY: Thursday.

FORMS CLOSE 9 A. M. Wednesday. Copy received later cannot be published until issue of following week.

NIGHT LETTER: When too late to send copy by mail to reach us by 9 A. M. Wednesday, forward by night letter.

THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements.

The same rate applies—20 cents per line per insertion.

U. S. ENGINEER OFFICE, Galveston, Texas, February 15, 1915. Sealed proposals for jetty and dike work at Aransas Pass, Texas, will be received at this office until 12 M. March 16, 1915, and then publicly opened. Information on application. C. S. RICHE, Lieut.-Colonel, Engineers.

U. S. ENGINEER OFFICE, Wilmington, N. C., February 10, 1915. Sealed proposals for dredging in Neuse River, waterway from Pamlico Sound to Beaufort Inlet, and Beaufort Harbor, N. C., will be received at this office until 12 M. March 9, 1915, and then publicly opened. Information on application. H. W. STICKLE, Maj., Engineers.

BOND OFFERINGS

Notice of Bond Sale

Brooksville, Fla.

The Board of County Commissioners of Hernando County, Florida, will receive bids for the purchase of the following described bonds, or any part thereof, at the Clerk's office of Hernando County, on or before the expiration of thirty days from the first publication of this notice, the said bids to be opened and the bonds awarded on the sixth day of March, 1915.

The bonds hereby offered for sale are as follows: Two hundred and fifty thousand dollars (\$250,000) Funding and Highway Bonds of Hernando County, Florida, to be dated the sixth day of March, 1915; to mature March, 1945; to bear interest at the rate of five (5) per cent. per annum, which interest shall be due and payable on January first and July first in each year.

All bids shall be enclosed in sealed envelopes addressed to the Board of County Commissioners of Hernando County, Florida, and marked "Bid for Bonds," and shall be accompanied by a certified check on a responsible bank or trust company for a sum equal to one (1) per cent. of the amount of bonds bid for.

The legality of said bonds will be approved by Messrs. Dillon, Thompson & Clay of New York, and their opinion as to the validity of the bonds will be furnished to the purchasers.

The Board of County Commissioners hereby reserves the right to reject any or all bids.

Dated February 1, 1915.

H. D. EVANS,
Chairman of the Board of County Commissioners of Hernando County, Florida.

M. H. SNOW,
Clerk of the Board of County Commissioners of Hernando County, Florida.

\$534,000 City of Richmond (Va.) ½ % Improvement Bonds

By authority of an ordinance of the City Council, approved January 15, 1915, the Committee on Finance of the City of Richmond is instructed to advertise and receive bids for the purchase of all or any portion of five hundred and thirty-four thousand dollars (\$534,000) Registered or Coupon Convertible Four and One-half Per Cent. Bonds, having thirty-four years to run, dated January 1, 1915, and bearing interest from that date. The proceeds of said issue to be used for making public improvements.

The Coupon Convertible Bonds will be issued in denominations of \$1000. Bids for all or any part of said issue will be received at the office of the City Auditor till noon of March 10, 1915. A certified check for an amount equal to 2 per cent. on bids of \$100,000 or less, or 1½ per cent. on all bids in excess of that amount, payable to order of the Auditor of the City of Richmond, must accompany each bid.

The right to reject any and all bids is expressly reserved by the Committee. For further information apply to Geo. S. Crenshaw, Auditor.

BARTON H. GRUNDY,
Chairman Committee on Finance.

Road Bonds For Sale

Road District Bonds, 25 \$1000, 10-40, 5 per cent. annually. Address
C. J. RHEMANN, Commissioner,
Brookshire, Texas.

Bonds For Sale

On Thursday, March 18, A. D. 1915, at 10 o'clock A. M., the Board of Bond Trustees of the City of Lakeland, Florida, will receive sealed bids at the Commissioners' Room in the City Hall, for the following municipal bonds:

\$150,000 of 5 per cent. Light and Water Bonds, due and payable \$3000 in 1925 and same amount each year thereafter until 1934. \$5000 annually beginning 1941 and continuing until 1961. \$1000 denominations.

\$20,000 of 5 per cent. Fire Department Bonds, due and payable \$2000 in 1932 and same amount annually thereafter until 1941. \$1000 denominations.

\$15,000 of 5 per cent. Hospital Bonds, due and payable \$1500 due 1932 and same amount annually until 1941. \$500 denominations.

All bids must be accompanied by a certified check for 1 per cent. of the amount of bonds bid upon. The Board reserves the right to reject any and all bids. All communications should be addressed to C. D. Clough, Secretary of the Board.

BOARD BOND TRUSTEES,
Lakeland, Fla.

Notice of Bond Sale

Man, W. Va.

The Board of Education of Triadelphia District, Logan County, West Virginia, will receive sealed bids for 40 \$1000 5 per cent. 10-34-year School Bonds on said district till the 4th day of March, 1915, at one o'clock P. M. of that day.

All bids should be mailed to W. R. Hinchman, Secretary of said Board, at Man, West Virginia, and marked "Sealed Bid."

The Board reserves the right to reject any or all bids, and will meet at the time and place above mentioned to consider any bids received.

W. R. HINCHMAN,
Secretary of said Board.

\$150,000 5% Road Bonds

Sealed bids will be received at Jellico, Tenn., until noon March 2, 1915, for \$150,000 worth of Campbell county road bonds. Bonds will be in denominations of \$100 to \$1000, at option of purchaser, interest not exceeding 5 per cent., payable semi-annually, and to mature 30 years after date. Semi-annual interest and principal payable at New York or at option of purchaser. Bids must be accompanied by a certified check for \$3000, payable to A. B. Mahan, Secretary, Jellico, Tenn. Said bonds to sell not less than par and accrued interest. The Commission reserves the right to reject any and all bids. A. B. Mahan, Secretary.

J. E. RANKIN,
Mayor.

Vivian (La.) Water-Works Bonds For Sale

\$35,000 in serial bonds maturing in 30 years. Issued for the construction of a water system for the Town of Vivian, La. Bids will be received until 4 o'clock P. M. March 16, 1915. Rights reserved to reject any and all bids. For information address

J. D. HOUSTON, Clerk,
Vivian, Louisiana.

Bonds For Sale

The Contractors on the Ward County Irrigation District No. 1 have for sale \$340,000 of 6 per cent. semi-annual bonds. The above bonds are gilt-edged and are of the same class as county road bonds, and must not be confused with the average irrigation bond. For further information write or wire
BAKER MANUFACTURING CO.,
OF TEXAS,
Sweetwater, Texas.

Municipal Bonds

White Sulphur Springs, W. Va.

Sealed bids will be received by the town of White Sulphur Springs, W. Va., until one o'clock Saturday, March 13, 1915, for \$9500 6 per cent. ten and twenty-year water and sewer bonds.

Certified check for 10 per cent. of bid to be enclosed. The right is reserved to reject any or all bids. Assessed valuation of property is \$475,448. For further information address W. A. Mastin, Mayor, or B. F. Dixon, Recorder.

Huntsville (Ala.) Municipal Bonds

The City of Huntsville, Ala., will receive sealed bids for its \$40,000 5 per cent. School Bonds on March 16, 1915.

Certified check five hundred dollars must accompany each bid.

Right to reject all bids reserved.
J. D. HUMPHREY, Mayor.

School Bond Sale

Waynesboro, Miss.

Wayne county will offer \$1200 Consolidated School Bonds on first Monday of March, A. D. 1915; 6 per cent. interest, payable annually. Bonds to run 20 years, with the privilege of redeeming them in 10 years.

W. A. BODI,
Chancery Clerk of Wayne Co., Miss.

BUILDINGS

Notice to Building Contractors

LaGrange, Ga.

Contractors wishing to bid on houses for the Hillside Cotton Mills of LaGrange, Ga., will please apply in writing to Park A. Dallas Company, 913 Candler Bldg., Atlanta, Ga., at once, so no delay would be incurred in furnishing plans.

These tenements will cover 3-room, 4-room and 5-room houses, and will average one hundred and twenty-five 4-room tenements as a whole layout.

Contract for these tenements will be let on March 16, 1915, at offices of Fuller E. Callaway, Treasurer, Hillside Cotton Mills, LaGrange, Ga.

This notice is for the benefit of contractors who might wish to bid on the tenements without attempting a bid on the main mill building.

Proposal for Courthouse

Lincolnton, Ga.

Sealed proposals, addressed to Samuel L. Wilkes, Ordinary, Lincolnton county, Lincolnton, Ga., will be received until twelve o'clock noon March 15, 1915, for furnishing all material and labor required for constructing a two-story brick and frame courthouse building at Lincolnton, Ga.

Plans and specifications can be seen at office of Samuel L. Wilkes, Ordinary, Lincolnton, Ga., also at office of Architect G. Lloyd Preacher, Augusta, Ga., and office of Willis Irvin, Washington, Ga.

Plans and specifications may be secured at discretion of architect by general contractors desiring to submit proposal on entire work contemplated by depositing twenty-five (\$25) dollars with architect, which deposit will be returned when proposal, accompanied by certified check or bidder's bond for 2 per cent. of amount of bid, has been submitted and when plans and specifications have been returned in good condition.

Plans and specifications may be secured by general contractors by depositing ten (\$10) dollars with architect, five (\$5) dollars of which will be returned when plans and specifications have been returned to architect, and the remaining five (\$5) dollars will be retained to cover cost of duplication of plans and specifications.

All bids must be accompanied by certified check for 2 per cent. of amount of bid, and the successful bidder will be required to furnish surety bond for half of contract price.

The right is reserved to reject any or all bids submitted, delay award of contract until competency of bidders can be determined, or to accept any bid, irrespective of price, which seems to the Ordinary to be the most advantageous.

(Signed) SAMUEL L. WILKES,
Ordinary.

PAVING, WATERWORKS AND SEWERS

Gravel Road

Clarksdale, Miss.

The Board of Supervisors of Coahoma County will, at their next regular meeting, to be held at Clarksdale, Miss., on the 3d day of March, 1915, receive bids for the construction of four miles, more or less, of gravel road, according to plans and specifications now on file in the office of the Chancery Clerk at Clarksdale, Miss.

The Board reserving the right to reject any and all bids.

Given under my hand and official seal this 2d day of February, 1915.
S. F. CARR,
Chancery Clerk and Ex-Officio Clerk of the Board of Supervisors of Coahoma County, Mississippi.

PROPOSALS

SEWERS

WATER-WORKS

ELECTRIC LIGHT PLANTS

BRIDGES

Paving

OFFICE OF THE PAVING COMMISSION.

Baltimore, Maryland.

Separate sealed proposals executed in duplicate, addressed to the Board of Awards, care of the City Register, will be received by him at his office in the City Hall until 11 A. M. Wednesday, March 3, 1915, to grade, curb and pave with Sheet Asphalt and Vitritified Block, all on a concrete base, the streets and intersections listed in the following contract:

Sheet Asphalt and Vitritified Block Paving
No. 112.

from	to
Pitcher St.	Fremont Ave. Penna. Ave.
Arlington Ave.	Lexington St. Lanvale St.
Arlington Ave.	Lafayette Ave. Fremont Ave.
Rennett Pl.	Arlington Ave. Fremont Ave.
Poppleton St.	Lexington St. Franklin St.
Rutland Ave.	Monument St. Eager St.
Ashland Ave.	Broadway. Chester St.
Myrtle Ave.	Lexington St. George St.
Pearl St.	Saratoga St. Penna. Ave.
Druid Hill Ave.	Hoffman St. McMechen St.

Intersections.

Patterson Park Ave. and Orleans St.
Franklin St. and Gilmor St.
Mulberry St. and Gilmor St.
Franklin St. and Carrollton Ave.
Mulberry St. and Carrollton Ave.
Calhoun St. and Fayette St.
Franklin St. and Schroeder St.
Calhoun St. and Saratoga St.

Sheet Asphalt..... 49,100 sq. yds.
Vitritified Block..... 6,800 sq. yds.
Granite Block..... 1,000 sq. yds.
Certified Check..... \$2,500

The figures above represent the approximate quantities of the principal items appearing in the contract.

Specifications and proposal sheets can be obtained upon application to the office of the Paving Commission, City Hall. A deposit of \$5 will be required for a specification covering each contract. This will not be refunded unless a bid is filed.

Plans and profiles are on file for the information of bidders in the office of the Consulting Engineer.

The Board of Awards reserves the right to reject any and all bids. A certified check of the bidder on a clearing-house bank, drawn to the order of the Mayor and City Council of Baltimore to the amount as recited above, must accompany each bid.

The successful bidder will be required to furnish bond and to comply with the City Charter respecting contract.

By order of the Paving Commission.
R. KEITH COMPTON,
Chairman and Consulting Engineer.
J. MYERS HEDIAN,
Secretary.

Approved:
JOHN HUBERT,
Acting President Board of Awards.

Hard-Surfaced Highways

LEGAL NOTICE.

Brooksville, Fla.

The Board of County Commissioners of Hernando County, Florida, will on the 6th of March, 1915, at twelve o'clock noon, at Brooksville, Florida, at the Clerk's office in the Courthouse, receive sealed bids for the construction of hard-surfaced highways in Hernando County, Florida, according to plans and specifications of said highways now on file in the Clerk's office at Brooksville, Florida, and in the office of Jaudon Engineering Co. of Savannah, Ga. Contract-ors to furnish all materials and labor. The Board reserves the right to reject any or all bids.

H. D. EVANS,
Chairman.

Attest:
M. H. SNOW, Clerk.

Street Improvements and Sewerage

Kinston, N. C.

Sealed proposals will be received by the City Council of the City of Kinston, N. C., at the City Hall in Kinston, N. C., until 5 P. M. March 23, 1915, for Street Improvements and Sewerage.

The work will consist of about:
12,000 sq. yds. or more of Brick, Asphalt, Bitulithic or other pavement.
30,000 lineal feet of Concrete Curb and Gutter.

20,000 sq. yds. of Sidewalk.
8 miles of 8 to 18-inch Pipe Sewers.

Proposals must be marked "Proposal for Street Improvements" or "Proposal for Sewerage."

All bids must be upon blank forms provided in the proposal and contract and specifications.

Each bid must be accompanied by a certified check for \$1000 as an evidence of good faith.

Plans and specifications will be on file at the Clerk's Office in Kinston and at the office of the Engineer in Charlotte, and copies of the specifications, form of proposal, etc., will be mailed upon application to the Engineer at Charlotte, N. C., when accompanied by a check for ten dollars to insure their return within 30 days after the letting.

The right is reserved to reject any or all bids.

FRED I. SUTTON, Mayor.
Engineer:
GILBERT C. WHITE,
Charlotte, N. C.

Water-Works and Sewerage System

Woodruff, S. C.

Sealed proposals will be received by the Town of Woodruff, S. C., at the office of the Clerk, for furnishing all material for a water-works and sewerage system, until 11 A. M. March 9, 1915, at which time they will be opened and read publicly.

The approximate quantities are as follows:
5,750' 8" Class B pipe.
13,600' 6" Class B pipe.
348' 8" Class A pipe.

11,000' 1 1/2" galvanized iron pipe.
Necessary galvanized iron fittings.
6 tons special castings.

40 Hydrants.
8 8" H. E. gate valves and boxes.
9 6" H. E. gate valves and boxes.

15 1 1/2" gate valves and boxes.
1 75,000-gallon tank on 85-foot tower.
19 to 30,000 pounds lead.

613 pounds water main jute.
750 pounds yarn.
11 to 22,000 pounds steel reinforcement.

1,000' 10" T. C. sewer pipe.
23,425' 8" T. C. sewer pipe.
85' 6" T. C. sewer pipe.

Necessary T. C. fittings.
62 manhole rings, covers, dust pans and rods.

13 flush tank rings and covers.
240 manhole steps.
13 single flush tank syphons.

521 barrels of cement.
149,000 bricks.
2.5 bags of clay.

55 barrels of lime.
237 tons stone.
Each bid must be accompanied by a certified check for 5 per cent. of amount bid, drawn to the order of J. E. Ezell, Clerk.

Specifications may be obtained from the Engineers or Clerk.

The right is reserved to reject any or all bids.

J. E. EZELL,
Clerk Town of Woodruff, S. C.
THE J. B. MCGRARY COMPANY,
Engineers,
1408-17 Third National Bank Bldg.,
Atlanta, Georgia.

Storm-Water Drain

OFFICE OF THE SEWERAGE COMMISSION OF THE CITY OF BALTIMORE.

ADVERTISEMENT OF STORM-WATER CONTRACT NO. 42, GWYNN'S RUN TRUNK DRAIN, SECTION NO. 1.

Baltimore, February 17, 1915.

Sealed proposals in duplicate, endorsed "Proposals for Building Gwynn's Run Trunk Drain, Section No. 1, Storm-Water Contract No. 42," addressed to the Board of Awards of Baltimore City, will be received at the office of the City Register, City Hall, Baltimore, Md., until 11 A. M. Wednesday, March 10, 1915, for building Section No. 1 of the Gwynn's Run Trunk Drain as shown on plans on file in the office of Mr. Calvin W. Hendrick, Chief Engineer of the Sewerage Commission.

Specifications and plans can be obtained upon application at the office of the Secretary of the Commission, 904 American Building, on and after Tuesday, February 23, 1915.

A charge of \$5 will be made for each set of specifications and plans, which charge will be refunded upon the return on or before March 10, 1915, of the unused specifications and blueprints in good condition, or upon the return of the General Specifications and plans in case a bid is submitted.

A certified check of the bidders on a clearing-house bank in the sum of \$3000, made payable to the order of the Mayor and City Council of Baltimore, will be required to be deposited with each bid.

Approximate Quantities:
1,200 feet 15"x12' 6" Drain.
150 feet 18"x12' 6" Drain.

665 feet excavated outlet channels.
8,300 cu. yds. of earth excavation.
700 cu. yds. of rock excavation.

4,750 cu. yds. of concrete.
310 cu. yds. of brick masonry.
250,000 pounds of reinforcing steel.

The successful bidder on this contract will be required to give bond and comply with the City Charter respecting contracts.

The Board of Awards reserves the right to reject any and all bids.

By order of the Sewerage Commission.
CHARLES ENGLAND,
Chairman.

HARRY W. RODGERS,
Secretary.
Approved: February 17, 1915.
JOHN HUBERT,
Acting President, Board of Awards.

Road Grading

Marshall, N. C., February 16, 1915.

Sealed bids for grading and draining approximately 6.3 miles of road leading out from Hot Springs will be received by the Madison County Highway Commission at their office in Marshall, N. C., until 2.30 o'clock P. M. Tuesday, March 16, 1915.

Excavation approximately 73,550 cu. yds.
Profiles and specifications may be seen in the office of the Clerk of the Superior Court, Marshall, N. C.

The Highway Commission will furnish bidders with a blank form of proposal; no bid will be considered unless submitted on such form.

Each bid must be accompanied by a certified check for \$500 as an evidence of good faith and that the bidder will enter into contract, if awarded same, within fifteen days, and in case he fails to enter into contract and furnish satisfactory bond

within the specified time his check is to be forfeited to the Madison County Highway Commission.

The right is reserved to reject any or all bids.
J. B. CLINGMAN,
County Road Engineer.

MISCELLANEOUS

For the Construction of Seven Bridges

NOTICE TO CONTRACTORS.

Elkins, W. Va.

The County Court of Randolph County, West Virginia, will receive sealed bids on March 1, 1915, until 2 o'clock P. M., for the construction of the following bridges, to wit:

Stone Gutter Bridge—On the S. & P. Turnpike. Dimensions—Length clear span 25 feet, clearance under bridge 8 feet, clear roadway of 18 feet, skew 50 degrees, wing walls 8 feet long.

Kings Run Bridge—On Beverly and Fairmont Turnpike. Dimensions—Length clear span 45 feet, clearance under bridge 5.5 feet, clear roadway of 18 feet, skew 60 degrees, wing walls 10 feet long.

Inner's Run Bridge—Beverly and Fairmont Turnpike. Dimensions—Length clear span 40 feet, clearance under bridge 7 feet, clear roadway 18 feet, wing walls 12 feet long.

Mill Creek Bridge—Huttonsville, Heivetta and Pickens Pike, at Rosencrance's Mill, near the town of Mill Creek. Dimensions—Length clear span 70 feet, clearance under bridge 8.5 feet, clear roadway of 14 feet, wing walls on the upper side 15 feet long, wing walls on the lower side 8 feet long.

Stone House Bridge—Across Cheat River. Dimensions—Length clear span 170 feet, clearance under bridge 17 feet, clear roadway 14 feet, wing walls on east side 15 feet long, wing walls on west side 12 feet long.

Bridge Over Run Near Arthur Crouch's—On the Staunton and Parkersburg Pike. Dimensions—Length clear span 20 ft, clearance under bridge 5 feet, clear roadway of 18 feet, wing walls 8 feet long.

Stalnaker Run Bridge on Leading Creek Pike—Dimensions—Length clear span 20 feet, clearance under bridge 7 feet, clear roadway of 18 feet, wing walls 7 feet long.

All these bridges are to be constructed of concrete except the Stone House Bridge, on Cheat River, which will be constructed of concrete or steel.

By order of the Court.
THADDEUS PRITT, Clerk.

Track Material

Port Commissioners of Jacksonville, Engineer's Office.

Jacksonville, Fla., February 18, 1915.

Sealed proposals will be received until 12 o'clock noon on Wednesday, March 10, 1915, and then publicly opened by the Port Commissioners of Jacksonville, Florida, Room 314 Realty Bldg., for furnishing track material as follows:

Item No. 1—600 gross tons of 70-lb. rail.
Item No. 2—40 tons four-bolt angle splice bars.

Item No. 3—3 tons bolts and nuts.
Item No. 4—18 tons spikes.

Item No. 5—45 turn-outs, including switches, frogs and switch stands.

Bids will be considered on both "Open Hearth" or Bessemer Steel.

Above quantities are only approximate. Specifications may be obtained from the Chief Engineer.

The Port Commission reserves the right to reject any or all bids or items thereof as may seem to their best advantage.

F. W. BRUCE,
Chief Engineer.

Electric Lights Wanted

Guntersville, Ala.

The town of Guntersville, Ala., contemplates putting in a system of electric lights within the next few months, and the Town Council of said town is now open for propositions from anyone who will put in the lights.

D. ISBELL,
Mayor.

Proposals for Steel Cages

Bids will be received by the Board of County Commissioners of Pinellas County, Florida, at Clearwater, Florida, for a Steel Cage for Convicts, capable of taking care of not less than 10 or more than 12 prisoners. Bids will be opened April 6, 1915. Address all communications to

C. W. WIECKING, Clerk,
Clearwater, Florida.

Notice to Builders, Steam Fitters, Plumbers and Electricians

Greenville, Miss.

Sealed proposals will be received by the City Council at the office of the Mayor until March 15, 1915, for furnishing materials and erecting high school building for the City of Greenville, Miss., including the building proper, heating, plumbing and wiring. For plans and specifications apply to H. H. Hunt, Architect, Chattanooga, Tenn. A deposit of \$25 will be required, which will be refunded upon the return of the plans. The City Council reserves the right to reject any and all bids.

LYNE STARLING,
City Clerk.

Power Plant and Lighting System

Sealed proposals will be received by the Town of Clarksville, Virginia, until 5 P. M. Tuesday, March 2, 1915, for the erection and installation of a Power Plant and Electric Lighting System for the town of Clarksville, Virginia.

Drawings, details and specifications and blank forms of bid sheets may be had by applying to Samuel Davis, chairman of Light Committee, Clarksville, Va. No bids will be considered unless made out on the proposal blanks furnished by the town. Each bid must be accompanied by a certified check of \$100 as a guarantee of good faith on the part of the bidder.

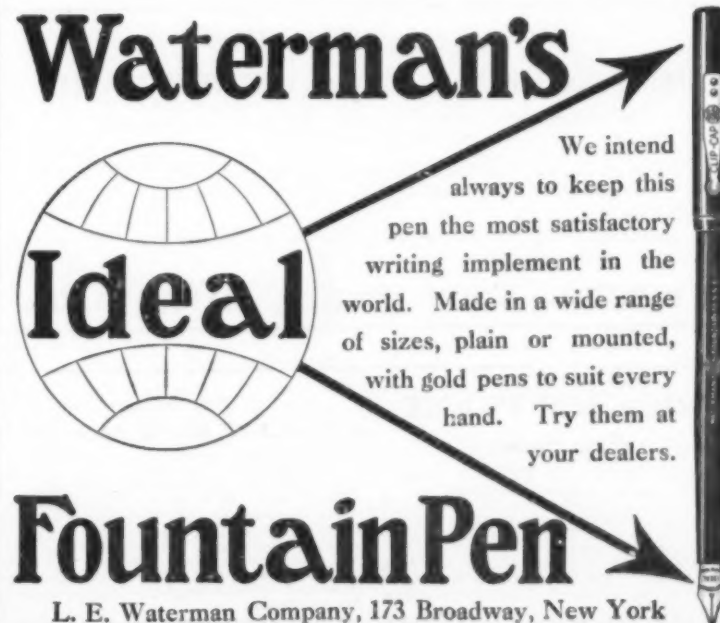
The Council reserves the right to reject any or all bids.

R. H. EASLEY,
Mayor.
Clarksville, Va.

Attention of Large Contractors

is called to an opportunity, of which full information can be obtained by writing

John L. Roper Lumber Co.
NORFOLK, VA.



Waterman's

We intend
always to keep this
pen the most satisfactory
writing implement in the
world. Made in a wide range
of sizes, plain or mounted,
with gold pens to suit every
hand. Try them at
your dealers.

Ideal

Fountain Pen

L. E. Waterman Company, 173 Broadway, New York

[Continued from Page 59.]

"was to secure ample deep-water frontage to take care of Beaumont's requirements as a port for the next forty years." This property is said to be ideally fitted for this purpose, as it extends for three miles above the city and six miles below, and has traversing it several railroads that now enter Beaumont proper. As a major portion of the land is subject to overflow, reclamation work is now under way, and it is reported that several millions of yards of sand have been pumped onto the land from the river. This reclaimed area is proposed to be utilized for a system of wharves, warehouses, etc. Complete development plans embody the sale of not less than 10,000 lots, and probably as many as 30,000, in connection with the townsite development, and as this requires taking care of obligations of considerable weight, the company is seeking a reliable institution or selling agency that has working affiliations throughout the United States to handle this project.

TRADE LITERATURE**"Nonpareil" Cork Insulation.**

"Permanent Fortifications" is the title of a little booklet issued by the Armstrong Cork Co. of Pittsburgh Pa. which contains interesting facts regarding the value of good heat insulation. Illustrations of "Nonpareil" cork insulating material used for cold-storage rooms and freezing tanks brine, ammonia and ice-water lines, tanks and filters, steam lines, feed-water heaters, etc., are shown in the booklet. "Nonpareil" corkboard, cork covering, insulating brick and high-pressure covering are among some of the Armstrong Cork Co.'s products described.

Standard Spiral Pipe.

In presenting illustrated catalogue No. 4, the Standard Spiral Pipe Works, First National Bank Building, Chicago, have endeavored to include not only price-lists of Standard reinforced spiral pipe, fittings, valves and specialties used in connection with such materials, but have also compiled information

tion of various kinds which should prove of value to engineers, architects, etc., in pipe installation work. Illustrations and description of pipe, joints, valves, fittings, etc., manufactured by the company are given, together with description of asphalt coating, galvanizing and testing of Standard products.

Farming Lands for Sale.

"Southern Farm Bargains" is the title of a booklet issued by Vance's Southern Farm Agency, 710 Inter-Southern Building, Louisville, Ky., which contains description, area and price of farms offered for sale in the South by this company. The company reports that by forming association with over 50 real estate agents, it is enabled through them to offer for sale farms of almost every kind, size and description, numbering nearly 10,000. Special descriptive catalogues on farms, farming lands and large bodies of unimproved lands in the States of Florida, Louisiana, Arkansas and Texas are furnished to interested persons upon request to the company.

Cochrane Multiport Valves.

Multiport valves introduced by the Harrison Safety Boiler Works, 17th St. and Allegheny Ave., Philadelphia, for back pressure relief and vacuum service, flow service in connection with mixed flow turbines, and check valve service with bleeder or extraction turbines, are illustrated and described in a 72-page booklet issued by the company. The essential idea of the multiport valve is the use of a number of small disks instead of one large disk, in order to secure greater safety, quietness, lightness of moving parts, and tightness. The several disks are each fitted with an independent dash pot held to seat by independent springs, the tension of all the springs being adjusted simultaneously by a pressure plate, the position of which can be changed by means of a hand wheel on the outside of the casing. Another advantage claimed is the ability to adjust the back pressure quickly and easily by changing the position of the pressure plate. In addition to full description and tabular matter, the book contains numerous diagrams and

layouts, also data on the effects of air in condensers and upon turbine performance.

"Samsco" Machinery Catalogue.

General Catalogue No. 4, issued by the San Antonio Machine & Supply Co. of San Antonio and Corpus Christi, Tex., contains over 800 pages of descriptive matter and illustrations of its "Samsco" line of machinery, as well as complete electric-light, refrigerating, cotton-gin and water-works-plant equipment handled in its jobbing department. The first few pages of the catalogue contain a short history of the development of the company, with outside and inside views of the company's plants, and the balance of the book is devoted to a description of the various products handled. Tables of weights and measures and other information and useful tables pertaining to the machinery field are also contained in Catalogue No. 4. The San Antonio Machine & Supply Co. manufactures Grueger-Atlas oil and gas engines, and the "Samsco" line of well-drilling machines, pumping jacks, centrifugal pumps, water elevators, wood saws and frames, cypress tanks and transmission machinery, and is an extensive jobber of windmills, pipe, casing, boiler tubes, boilers, steam engines, valves and fittings, belting, pulleys, wire, nails, sheet steel, tin plate, etc. In connection with a manufacturing and jobbing business, the company's shops are also equipped for all kinds of repairing.

Engineering Directory for 1915.

Numerous new features which are of interest to manufacturers of engineering, mill and machinery supplies are said to have been added to the Engineering Directory for 1915, just issued by The Crawford Publishing Co., 537 S. Dearborn St., Chicago. In previous years the Directory has been published in one volume, but the 1915 edition is divided into two parts; Part I containing the selling or mailing lists, while the buyers' sections, or classified directory of manufacturers, is contained in Part II. Lists of dealers and jobbers of mill, mine and machinery supplies, plumbing and heating supplies, cotton and flour mills, lumber manufacturers, etc., classified by States, giving

name of officers and buyers, and specifying the kinds of goods handled by each, with other detailed information, are contained in the leather-bound book of 893 pages forming Part I. Part II is essentially a buyers' handbook. It contains a classified directory of the manufacturers of mill, steam, mine, contractors', plumbing, lighting and allied lines of supplies and machinery, with an alphabetical list giving street addresses and specifying the kind or principal products manufactured. A 20-page cross index simplifies the matter of locating any particular line or specialty. This book is cloth bound and contains 468 pages. Part I sells for \$5; or both parts together can be purchased for \$6.

United States and Foreign Patents.

Much information of value to inventors and manufacturers seeking patents and trade-marks is contained in a Terms Book on United States and Foreign Patents entitled "Patents That Protect," issued by R. S. & A. B. Lacey, patent attorneys, Barrister Building, Washington, D. C. Terms of contract in issuing patents, method of examining patents, how to obtain patents, time required, etc., are discussed in this book, which will be sent to interested persons upon receipt of 6 cents for return postage. A list of prominent corporations which are said to have closed important transactions relative to patents issued through the company is also given in the book. A special publication about foreign patents and a large four-page folder entitled "Visible Results," showing many illustrations of devices, machinery and engineering appliances for which patent rights are said to have been secured through the offices of R. S. & A. B. Lacey have been issued, together with an illustrated book on "Patent Talks and Suggestions," which sells for 50 cents a copy. This firm, which was founded in 1869 by its senior member, Major. R. S. Lacey, is represented at the bar of the Supreme Court of the United States and Supreme Court of the District of Columbia, and confines itself to United States and foreign patent and trade-mark practice exclusively.

Special Advertisements of General Interest.**DEEP WATER FRONT**

50 Acres—Solid upland. Large stack with fine brick buildings suitable for any line. Large additional acreage if desired. Excellent water supply; good labor market; no restrictions.

Railroad on Property—Service of several trunk lines. Steam lighters stop at property, giving express service at freight rates.

Large Frontage—Riparian rights owned; draught 25 feet.

For particulars, apply to

C. W. & G. L. TREMBLEY

Phone 5307 Cortlandt

5 Cortlandt Street, New York

NOTE—We are recognized authorities on this class of property.

Opportunity to Buy**PLANING MILL AND LUMBER YARD**

At an unusually reasonable price. Equipment modern and in first class condition

Situated in Marietta, Ga., a thriving city of over 8,000 people, but 18 miles from Atlanta. Satisfactory reasons for desiring sale will be given.

Splendid opening for man of experience in the lumber line. Write for full information to

R. E. BUTLER & SON

REAL ESTATE
and RENTING

MARIETTA, GA.

FRICK ICE PLANT**For Sale**

Complete ten-ton Frick Ice Plant. Recently rebuilt and in excellent condition. Cheap fuel, good prices for ice, no competition, plenty of water, and located in a growing town, which is the county site of a recently organized company.

This is one of the best locations for an ice plant in the State. Must be sold to settle an estate. An excellent chance for someone.

Address Post Office Box 196 CLAXTON, GA.

For Sale**COMPLETE BAND SAW MILL**

and Planing Mill at Riverside, Ala. Buildings, power plant, all machinery ready to start up. Expect to sell at small percentage of original cost. It is in the timber district. Good opportunity for manufacturing and shipping. Low freight rates. River navigation for steamboats. Plenty additional timber. Southern Railway. Two thousand acres of timber with the plant. Good place for river and railroad logging. Owners wish to retire. Apply

LATHROP HATTEN LUMBER CO., Birmingham, Ala.

MANGANESE

Along the Norfolk & Western Railway in the Piedmont Counties of Virginia and North Carolina, and in the foothills of the Blue Ridge Mountains are large undeveloped deposits of high-grade manganese ore. In the past Virginia has produced more manganese than all other States combined. At present a number of properties have been purchased and are being operated, yielding a profitable return on capital invested. If interested, write for further particulars.

CEMENT PLANT WANTED.—In one of the Shenandoah Valley counties of Virginia, served by two transportation lines, is a large deposit of high-grade limestone shale and clay, suitable for the manufacture of portland cement. An undeveloped water-power, which can be made to produce at least five thousand horse-power, within one mile from proposed cement mill site.

Further information regarding these and other propositions by writing F. H. LA BAUME, Agr'l and Ind'l Agent, Norfolk & Western Ry. Co., Roanoke, Virginia. REFERRING TO FILE M-6004.

**POWER PLANT
FOR SALE OR LEASE**

One of the best located and equipped operating Brick Plants in the Southwest. Manufacturers of vitrified face and paving brick. Matt face a specialty. Located at Ft. Smith, Ark. Trade covers part of four States. Terms can be made to suit a responsible purchaser. Capacity, 75,000 brick per day. Address **BURKE BRICK COMPANY, Ft. Smith, Ark.**

SALES AGENCY

In New England territory would like to represent reliable concern in iron or machinery line, straight commission basis. Prompt attention to all inquiries. Have storage facilities—salesmen on road—equipped with business autos. Write for information. Address **VULCAN CO. Allston Sta., Boston**

Merchants Looking for Better Location with all conditions in their favor, should write me about new **EARLE BUILDING**, Birmingham, Ala.—five stories and basement, strictly modern, full fireproof construction, in heart of city, and one hundred feet from best improved corner in the South.

R. A. TERRELL

503 Title Guarantee Bldg. Birmingham, Ala.

WATER-POWER**FOR SALE**

In a growing industrial center, 150 H. P. water-power, with absolute water rights, including buildings, with railroad and trolley facilities; 45 miles to Philadelphia and 4 miles to South Bethlehem, Pa. Address Dr. A. O. Kiser, Bethlehem, Pa.

SANTA ANNA, TEXAS

Has the most complete natural-gas system in the entire Southwest. Splendid water system. Glass sand assaying 99.53% silica. The best limestone in the State. Fire and brick shales. Large and splendid agricultural trade territory. Oil and gas field developing. Large distributing territory. We invite capital to fully investigate our opportunities.

FRED. W. TURNER, Sec., Santa Anna Commercial Club

TO LEASE, HAGERSTOWN MD.

All or part of 125,000 sq. ft., part of fine factory, splendid shipping facilities on 4 railroads, B. & O. siding on premises, up-to-date sprinkler system, good labor market, large drawing presses and enameling ovens on premises.

We prefer metal-working industry with us. For further information apply to **JAMES MORRISON, Jr., 244 W. 23rd St., N. Y. City, N. Y.**

Arkansas Colonization Tract

2000 acres; 300 acres improved, balance timbered; 2 to 4 miles from station; \$8 per acre.

Address Box 158, Bearden, Ark.

If you wish to keep posted on the progress of the South read the

MANUFACTURERS RECORD

Price \$4.00 a year, or six months for \$2.00

Special Advertisements of General Interest.

Rolling Mill and Machine Shop at Birmingham, Alabama FOR SALE

The Property known as the Bul-
lard Car Door Equipment plant,
centrally located on Southern
Railway tracks in Birmingham,
Ala. Will sell at great bargain.

If interested, write to

THE JEFFERSON COUNTY SAVINGS BANK
Birmingham, Ala.

Steam Engineer Electrical Engineer and Pipe Fitter Desires Good Position

Habits unimpeachable. Punctual
and attentive to Duty. Reputable
Stencilor. Business and Literary
Education.

Write to

R. N. SMITH

Hephzibah,

Georgia

Your chance to open up a new market for your goods in SOUTH AMERICA

If interested, write at once to

FRIEDR. W. LUTZ

RICHMOND, VA.

Personal Representatives in Brazil and the Argentine Republic.

Complete Saw and Planing Mill Plant, Drykiln and Logging Equipment For Sale

Valuable modern, complete Saw and Planing Mill, Drykiln and Logging Equip-
ment. Well located. Good railroad connections. The whole plant and appurtenances
in good condition. Situated at Ehrhardt, South Carolina, on A. C. L. R. R.

Will be offered for sale at Real Estate Exchange, Broad St., Charleston, S. C., on
Thursday, March 18, 1915, at 11 o'clock A. M.

Sawmill consisting of double-deck mill, Hill Steam Nigger, Live Rolls, Cut-off and
Edging Saws, with daily capacity of 25,000 feet; L. Moore Drykiln, Planing Mill, Log-
ging Outfit, including Forney Locomotive, Surrey Parker Skidder, Mules, Logging
Trucks and eight miles of 30-lb. rail. In use only three years and now in operation.

Also, about ten million feet of pine timber.

Fifteen million feet additional timber available at reasonable prices.

Terms and full particulars furnished by the undersigned.

T. T. HYDE & SONS,

No. 42 Broad St., Charleston, S. C.

Receivers' Sale of Timber Lands and Sawmills of Kanawha Hardwood Company

By virtue of a judgment of the Superior Court of Cherokee County, made and
entered at the January Term, 1915, of said Superior Court, in certain consolidated
actions therein pending, wherein J. L. Smathers, L. E. Bayless and C. M. Hickerson
are plaintiffs, and J. Q. Barker, W. B. Haarick and J. A. Lewin, partners, trading and
doing business as Kanawha Hardwood Company, et al., are defendants, the under-
signed Receivers and Commissioners of the said Court will offer for sale at public
auction, to the highest bidder, at the Courthouse door in Murphy, North Carolina, on
Monday, March 1, 1915, certain real and personal property, consisting of about 14,000
acres of land in Graham and Cherokee counties, North Carolina, most of which is
covered by hardwood timber; also a large band-saw mill, three circular-saw mills, a
log loader, and other machinery, for a full description of which see "Cherokee Scout,"
a newspaper published in Murphy, North Carolina.

The above described property will be sold upon the following terms: One-third
to be paid in cash upon the confirmation of sale by the Court, one-half of the remain-
der of the purchase price to be paid in one year, and the balance to be paid in two
years from date of confirmation of sale, with six per cent. (6%) interest from date
of confirmation. Title to be retained until purchase price is paid in full. Ten per
cent. (10%) of bid to be paid in cash on day of sale as security with compliance with
bid.

The above sale is to be made for the purpose of satisfying and discharging the
indebtedness of the Kanawha Hardwood Company according to the priorities fixed by
the aforesaid judgment in this cause.

D. WITHERSPOON,
T. J. HILL,

Receivers and Commissioners.

This the 28th day of January, 1915.

Receiver's Sale of the Snowbird Valley Railway Company's Railroad and Other Property

By virtue of a judgment of the Superior Court of Cherokee County, made and
entered at the January Term, 1915, of said Superior Court, in a certain action therein
pending wherein J. L. Smathers, L. E. Bayless and C. M. Hickerson, the Merchants
and Manufacturers' Bank of Andrews, N. C., et al. are plaintiffs, and the Snowbird
Valley Railway Company is defendant, the undersigned Commissioner of said Court
will offer for sale at public auction, to the highest bidder, at the courthouse door in
Murphy, North Carolina, on Monday, March 1, 1915, all the property, franchises and
effects of the Snowbird Valley Railway Company, which includes the railroad run-
ning from the town of Andrews, in Cherokee county, into the timber lands of the
Kanawha Hardwood Company, in Graham county, the rolling stock and all other
property of the said Snowbird Valley Railway Company.

The above described property will be sold upon the following terms: One-third to
be paid in cash upon the confirmation of sale by the Court; one-half of the remain-
der of the purchase price to be paid in one year, and the balance to be paid in two
years from date of confirmation of sale, with six per cent. (6%) interest from date
of confirmation.

Title to be retained until purchase price is paid in full.

Ten per cent. (10%) of bid to be paid in cash on date of sale as security for com-
pliance with bid.

The above sale is to be made for the purpose of satisfying and discharging the
indebtedness of the Snowbird Valley Railway Company, according to the priorities
fixed by the aforesaid judgment in this cause.

This the 28th day of January, 1915.

J. D. MALLONEE,
Commissioner.

NOTICE OF FORECLOSURE SALE

OF THE

John M. Stone Cotton Mills STARKVILLE, MISS.

Twenty acres of land, partly in the corporate limits and half a mile
from the State Agricultural College.

Modern brick building, two warehouses with railroad switch to doors,
eighteen cottages and ample water supply. Equipped with 5360 spindles
and 150 looms to make 64x64, 38 $\frac{1}{2}$, 5.15 sheeting. In good running order.

Sale on WEDNESDAY, March 10th, 1915, at Courthouse door, Starkville,
Miss.

FOR FURTHER INFORMATION, ADDRESS

A. C. ERVIN, Trustee

STARKVILLE, MISS.

ADAM A. WESCHLER AUCTIONEER Auction Sale of Plant, Machinery and Other Property of THE EMERSON STEAM PUMP COMPANY

Pursuant to the terms of a decree rendered by the Corporation Court
of the City of Alexandria, Virginia, on November 30, 1914, in the con-
solidated chancery causes of Jacob N. Belt, Adm., etc., vs. The Emerson
Steam Pump Company, et als., and Orren G. Staples, who sues, etc., vs.
The Emerson Steam Pump Company, et als., the undersigned, appointed
by said decree Special Commissioners for the purpose, will offer for sale
at public auction, at the plant of The Emerson Steam Pump Company,
in the County of Fairfax, Virginia, near the corporate limits of the City
of Alexandria, Virginia, at 12 o'clock Noon, on Monday, March 15, 1915,
the plant and all the property of The Emerson Steam Pump Company,
including patent rights, splendid factory and other buildings of the
Company, erected on a tract of land containing 3-88/1000 acres, all the
machinery and attachments in said plant, tools, office furniture, completed
and uncompleted pumps and parts, etc.

The factory building on this property is 215 feet long and about 63
feet wide, and contains besides the pump factory a fully equipped pattern
shop. The building is of steel, brick and cement construction, cement
flooring, six inches deep, covered by double oak flooring. Carey roof. It
is only about 200 yards by road from the freight station of the Washington-
Southern Railway Company.

The plant is now in operation.

The above property will be offered for sale separately and as a whole,
and will be knocked down to the highest bidder.

TERMS OF SALE: CASH. Conveyancing at the cost of the pur-
chaser or purchasers. A reasonable deposit will be required on the day of
sale on each purchase, and payment in full will be required within thirty
days from the date of sale.

EDMUND BURKE,
GARDNER L. BOOTHE,
Special Commissioners of Sale.

Bargains in Machinery and Supplies.

Machinery Bargains

14-ton 9"x14" Porter Locomotive, 36" gauge.
4-yd. K. & J. Dump Cars, 36" gauge.
3-yd. All-Steel Dump Cars, 29" gauge.
240 tons 60 and 70-lb. Relaying Rails.
120 tons 12 and 16-lb. Relaying Rails.
175 tons 12" 35 and 40-lb. Sheet Piling.
50 24" 80 and 100-lb. I Beams, 30 to 39.
200 15" 42 and 60-lb. I Beams, 15 to 18.
200 12" 40-lb. I Beams, 15 to 18.
40 100x15 All-Steel Frame Buildings complete, ready to erect.

Write for Free Complete List No. XB-213.

Harris Brothers Company, Owners

CHICAGO HOUSE WRECKING CO.

35th and Iron Sts.

CHICAGO, ILL.

PUMPS Blowers and Filter Tanks

One Deane Steam Pump, No. 16165, horizontal duplex double-acting compound non-condenser plunger and ring pattern, 14-20-12-18.

One Worthington Steam Pump, No. 100,182, size 7½x14x10.

Filtration Plant, manufactured and installed by New York Continental Jewell Filtration Co., original cost \$8500, consisting of 4 filter tanks 16 ft. in diameter by 8 ft. high, with 2 ft. of sand in each; worth \$1000. Also, F. M. Roots Co. 4-in. Centrifugal Blower, size 2, No. 27271, with upright engine, No. 8148, made by N. Y. Steam Power Co., for operating same.

John C. Stearns

N. Y. Life Bldg., Kansas City, Mo.

Boiler For Sale

By Lorick & Lowrance, Inc., one 75-horsepower Horizontal Return Tubular Boiler, 60 inches by 15 feet, half-arched front, fire box, grate bars and fixtures. Manufactured by Nagle Boiler & Engine Works. Price \$400, f. o. b. Columbia, S. C.

For Sale—Cheap Before Removal
Special lot of

Electrical and Rolling Mill Equipment

Write for List and Prices.

We buy the entire equipment of Industrial Plants. What have you for sale?

W. L. BIRTWELL, Crozer Bldg., Philadelphia

FOR SALE CHEAP

One Land Pile Driver, 3000-lb. hammer, 50 ways and steel rollers.
One Steel Stack, S. S., 6"x100".
One Steel Stack, S. S., 10"x150".

CENTRAL TRANSFER CO.

415 N. Front St. BALTIMORE, MD.

GAS PRODUCER AND ENGINE FOR SALE

One 45 H. P. 3-cylinder NASH producer gas engine suitable for belt-driven machinery, pumps or generators; one 50 H. P. Type E. Smith producer. Same has been in use for not more than three years, and is in good condition. A low figure to a prompt buyer. Address NATIONAL METER COMPANY, Engine Department, 84 Chambers Street, New York City

POWER and COAL MINING EQUIPMENT

IN EXCELLENT CONDITION

FOR SALE

Direct Current Generating Sets, 250 and 550 volts.
Boilers, 150 H. P., Return Tubular.
Feed Water Heaters—Cochrane, Stillwell-Bierce and McGowan.
Horizontal and Vertical Steam Engines, 5 to 320 H. P.
Air Compressors—Laidlaw-Dunn-Gordon and Norwalk, capacities 900 cu. ft. to 2100 cu. ft.
Separators, Steam Traps and Piping.
Steam Pumps, Piston and Plunger, best makes.
Mining Equipment. Full list furnished on request.

NEW RIVER COMPANY

Equipment Sales Department

MACDONALD, W. VA.

AT A BARGAIN

3 Lidgerwood Hoisting Engines, cylinders 8¼x10, D. D., D. C., first-class condition.

1 Wetherall Twin Corliss Engine, cylinders 20x42, first-class condition.

2 5" Worthington Turbine Pumps, D. C. to 85 H. P. motors.

Plants Bought and Dismantled

BOSTON IRON & METAL CO.

Pratt St., BALTIMORE, MD.

SAWMILL MACHINERY

1 Lidgerwood Steel Frame 4-Line Combination Pine Skidder and Loader, \$6500.00

1 10"x10" Lidgerwood Overhead Skidder \$2500.00

1 No. 3 Wickes Gang \$1250.00

1 500-800 H. P. Clark Corliss Engine (new) \$2500.00

Sawmills, Edgers, Log Hauls, Live Rolls, Conveyor Systems, Filing-Room Equipment, Saws, etc.

Planers, Moulders, Timber Sizers, Blowing Systems, etc.

Drykiln Pipe, Headers, Traps, Trucks, Tracks, etc.

Engines, Boilers, Gas Engines, Dynamos, Motors, etc.

Pulleys, Shafting, Hangers, Boxes, etc.

Relay Rail, Locomotives, Cars, Skidders, etc.

We CAN SAVE YOU HALF ON LARGE and SMALL ITEMS of USED EQUIPMENT.

SOUTHERN MACHINERY EXCHANGE, Jacksonville, Fla.

PRICED FOR QUICK SALE

A Famous 11 H. P. Monitor Gasoline Engine

Mounted on steel beam trucks, with tongue, neck yoke and doubletrees, with batteries and coil—water cooled—6"x8" cylinder, mechanically operated valves, tapered and ground valve cages—no gaskets—with 16"x6" friction clutch pulley—weight complete 3600 pounds.

For \$318.00
F. O. B. Wheeling.

The addition of kerosene attachment, Elkhart magneto and other similar improvements on full line of Monitor engines accounts for this low price—new in every respect—fully guaranteed—reasonable trial to responsible parties.

Better wire your order. Other good values in Cook, Fairbanks-Morse, Novo and Bull Dog engines in certain sizes.

Wheeling Mold & Foundry Co.

WHEELING, W. VA.

FOR SALE

We offer the following equipment for immediate delivery f. o. b. Charlottesville, Va.: Price.

1 200 H. P. Coatesville Return Tubular Boiler, complete, with front and fittings \$2500.00

1 150 H. P. Coatesville Return Tubular Boiler, complete, with front and fittings 200.00

1 500 H. P. American Feed Water Heater, made by Whitlock Coil Pipe Co. 150.00

1 60" Buffalo Forge Fan, 23x22" openings 25.00

1 100 K. W. General Electric 550-volt D. C. Type M. P. 600 H. P. M. Generator with panel. 500.00

3 150 K. W. General Electric 550-volt D. C. Type C. L. B. 525 R. P. M. Generators with panels, each. 600.00

2 150 K. W. General Electric Form P 2300-volt 3-phase 60-cycle Alternators, each, with panels. 800.00

500-volt D. C. Motors with Pulleys, Bases and Starting Boxes.

1 40 H. P. 950 R. P. M. Westinghouse, shunt wound. \$200.00

1 30 H. P. 675 R. P. M. Westinghouse, Type 8. 200.00

1 25 H. P. 875 R. P. M. General Electric, D. L. C. Type. 200.00

1 20 H. P. 925 R. P. M. General Electric, D. L. C. Type. 175.00

1 20 H. P. 1040 R. P. M. Westinghouse, Type 8. 150.00

1 15 H. P. 925 R. P. M. G. E. 125.00

2 10 H. P. 1400 R. P. M. G. E., each. 100.00

1 10 H. P. 950 R. P. M. Westinghouse. 100.00

3 5 H. P. 1200 R. P. M., each. 50.00

220-volt Direct-Current Motors, starting boxes and pulley. 45.00

1 7½ H. P. 1400 R. P. M. Kester. 45.00

1 3 H. P. 1500 R. P. M. Kester. 35.00

We also have a number of smaller 220-volt D. C. motors, vacuum cleaners, meters, fans, ceiling and desk, massaging machines, etc. Write us.

CHARLOTTESVILLE & ALBEMARLE
RAILWAY COMPANY
CHARLOTTESVILLE, VA.

ELECTRIC MOTORS WANTED

WANTED—One or two 15 to 20 H. P. 60 C. 440 V. 3 P. motors in good order. State particulars.

Address Power
Care MANUFACTURERS RECORD
Baltimore, Md.

CASKS FOR SALE

Heavy, well-made iron-bound casks, 42" diameter middle, 38" diameter ends, 42" high, 1½" thick, in sound condition, with both heads in. Sold singly or in car lots.

N. & G. TAYLOR CO.

Third and Chestnut Sts. Philadelphia, Pa.

Engine Lathe and Structural Steel

WANTED

WANTED—A second-hand 12"x96" engine lathe; also second-hand structural steel suitable for a building 40"x90".

Address P. O. Box 247 Mobile, Ala.

ENGINES

One 15x27" L. H. Buckeye Automatic Engine, tangle bed, speed 150 R. P. M., 9"x25" belt wheel, rated at 150 to 200 H. P. This engine used in our factory, now displaced by motors. In splendid condition, and will sell at bargain price.

One 18"x48" L. H. Harris Corliss Engine, 14"x30" belt wheel. In Hicks-Brown Mill, Mansfield, Ohio, and must be moved to install gas plant. Write for attractive low price.

NORDYKE & MARION CO.
Indianapolis, Ind.

80 H. P. ATLAS ENGINE FOR SALE

One 80 H. P. side crank Atlas Engine in good condition offered at a bargain.

CAROLINA BARYTES COMPANY
Stackhouse, N. C.

Direct Current Dynamo and Switchboard FOR SALE

One Westinghouse Dynamo, 1100 R. P. M., 12½ K. W., 500 lights, 125 volts, with pulley, slide rails, slate switchboard, ampere meter, volt meter, circuit breaker, field rheostat, main switch and 4 circuit switches. Condition perfect and price low.

HOLMES ELECTRIC COMPANY
16 Market Place Baltimore, Md.

2nd-Hand Machinery

CORLISS ENGINES

COMPOUND: 32 & 62x60 Allis H. C. C.—26 & 54x60 Allis H. T. C.—22 & 44x48 Monarch.—18 x 32x42 Allis.—14 & 28x36 L. & B. H. C. C. SIMPLIFIED: 36x30 Corliss; 30x30 H. & B.; 28x42 Ham.; 24x48 Allis; 24x48 Twin Nordberg; 22x42 Ham.; 18x42 St. Louis; 3-16x42 Ham. St. Louis; 16x36 St. Louis; 3-14x36 St. Louis, Ham.; 13x36 H. Duty Corliss.

BOILERS

2 125 H. P. B. & W., 150 lbs. pressure.
200 H. P. Erie City, 150 lbs. pressure.
200 H. P. Heine, 160 lbs. Marine Casing.
4 250 H. P. Edgemore, 150 lbs. pressure.
2 250 H. P. Sterling, 150 lbs. pressure.
4 250 H. P. Heine, 160 lbs. pressure.
1 300 H. P. Edgemore, 175 lbs. pressure.
2 300 H. P. B. & W., 160 lbs. and stokers.
3 300 H. P. Heine, 150 lbs. pressure.

A. C. UNITS 3 PHASE 60 CYCLES

K.W. Make.	Volts.	Rev.	Engine.
50 Burke	440	3600	Kerr Turb. (Steam)
125 Westge.	240	3600	Parsons Tur. (Steam)
165 Westge.	440-220	225	18x18 Erie City
250 Ft. Way.	2300-225	300	H. P. B. McBeth Gas.
300 Westge.	440-220	200	Westge. Vert. C. Comp.
300 G. E.	480	200	24x22 Erie Ball.
2 300 G. E.	550-440	225	1 Comp. & 1 simple Harb'g.
400 G. E.	2300-120	Mc. J. & S. Vert. C. C.	
2 400 G. E.	2300	150	18 & 36x30 Buckeye.
3 500 Westge.	2300-440	3000	H. P. Westge. St. Turb.
600 Westge.	440	90	32x48 Allis Corliss.
1000 Westge.	Any	1800	Low-pressure Turb.
1600 Ge. El.	Any	1800	Mix.-press. Curia.
2 1000 Westge.	Any	1800	H. P. Westge. St. Turb.

D. C. UNITS—250 Volts 125 Cycles

K.W. Make.	Volts.	Engine.
400 Ft. Way.	230	24x27 Buckeye R. H.
400 G. E.	275	16 & 30x24 Erie Ball.
250 Westge.	3-Wire	16 & 31x27 Erie City.
300 Westge.	3-Wire	19 & 32x24 Ridg'y H. C. C. Cor.
2 220 G. E.	275	27x18 Ball & Wood.
200 Westge.	3-Wire	17 & 28x20 Ridg'y H. T. C.
100 G. E.	3-Wire	Ridgeway Tand. Comp.
100 Westge.	3-Wire	12 & 20x16 Ridg'y T. C.
50 C. W.	250	11x12 Chase Auto.
35 G. E.	250	Curtis Steam Turb.
20 Tr.	125	8x9 Chase Auto.

Harold R. Wilson Machinery Co.

419 Pine St. Other Sizes St. Louis, Mo.

Steam Driven Compressors

THREE 24"x24"x30" "RAND," Class C, S. L., capacity 1300 cu. ft.

PRICE ONE THOUSAND DOLLARS EACH, f. o. b. cars this city—in good operative condition—an undoubted bargain at this price.

Other steam-driven compressors in stock: 1 24"x24"x30" "Ingersoll-Sergeant." 3 20"x20"x24" "Ingersoll-Sergeant." 1 14"x14"x12" "Norwalk." 1 12"x12"x12" "Herron & Bury." 1 10"x10"x10" "Ingersoll-Rand." 1 7½"x6½"x8" "Clayton."

We also have a large stock of belt-driven compressors from 6" cylinders to 12". New stock lists now being printed. May we send you one?

L. F. SEYFERT'S SONS, Inc.
437 North Third Street PHILADELPHIA

Engine, Generator and Motors

FOR SALE

1 4-valve Automatic Atlas Engine, 12x18, A-1 condition.
1 65 K. W. Generator, 750 R. P. M., slightly used, 300 amperes.
Motor—2 2 H. P. 750 R. P. M. "Commercial," 220 volts, D. C., 80 Amp.
Motor—1 1½ H. P. 1575 R. P. M. "Sprague Elec. Co." 220 V., D. C., 5.77 Amp.
Motor—1 1 H. P. 550 R. P. M. "Kester Elec. Co." 220 V., D. C., 4 Amp.
Motor—1 2 H. P. 900 R. P. M. "Kester Elec. Co." 220 V., D. C., 7 Amp.
Motor—1 5 H. P. 1350 R. P. M. "Kester Elec. Co." 220 V., D. C., 17 Amp.

MILLER-PARROT BAKING CO.
Terre Haute, Ind.

FOR SALE

One Ice Engine and Machine; also a Russell Four-Valve Simple Engine, 15x18, 200 R. P. M., almost new, and a Russell Four-Valve Engine, 16x24, 150 R. P. M., belt connected to a 100 K. V. A. Westinghouse Generator, 2200 volts, 3-phase, 60-cycle, 900 R. P. M., direct connected to a 3 K. W. Westinghouse Exciter, 125 volts. Address

POWER EQUIPMENT
Care Manufacturers Record, Baltimore, Md.

BOILERS FOR SALE

I have a big bargain in two 125 H. P. Butt-Strapped Triple-Riveted Boilers. One Corliss Engine, 10x24, 10x12 Belt-Driven Air Compressor.

R. W. TRAYLOR
348 Ogden Avenue Jersey City, N. J.

Bargains in Machinery and Supplies.

In replacing our manufacturing equipment we find the following first-class

Used Machine Tools

which we offer at attractive prices

16"x6" Reed.
17"x6" Gray.
20"x8" Lodge & Shipley, Q. C. G.
20"x10" Lodge & Shipley, Q. C. G.
20"x12" Lodge & Shipley, Q. C. G.
24"x8" Lodge & Shipley, Q. C. G.

SPECIAL LATHES

No. 3 Lodge & Shipley Rapid Reduction Lathe.
24"x7" Lodge & Shipley Chucking Lathe.
14"x7" Towsley Speed Lathe.
2 18"x8" Lodge & Shipley Single Pulley Driven Lathes.

METAL SAWS

Globe Power Hack Saw, 8" capacity.

MISCELLANEOUS MACHINES

One Marion Double Grinder.
One Marion Double Grinder on stand.
One Diamond Combination Grinding and Polishing Stand on column.
One Sturtevant Blower, diameter of outlet 24".
One "Ohio Planer," 24"x24"x12", with two heads on cross rail.
Universal Swivel Table for Radial Drill.
Brown & Sharp Grindstone Frame for 5"x36" stone.
One Mueller Grindstone Frame for 4"x27" stone.
One 12"x40" Mumford Molding Machine.
Write for complete description with prices of machines in which you are interested.

The Lodge & Shipley Machine Tool Co.
CINCINNATI, OHIO

Special Bargains in Sanders

1 42" 3-drum Perfection Sander, thoroughly overhauled.....\$350.00
1 48" 3-drum Thomas Sander.....\$400.00
1 48" 4-drum H. B. Smith Sander.....\$500.00
1 48" 3-drum Royal Invinible Sander, used only 3 weeks.....\$550.00
1 54" 3-drum J. A. Fay & Co., fine order.....\$500.00
1 60" 3-drum Columbia Sander in A-1 condition.....\$600.00

JOINTERS

1 20" Carrey Hand Jointer.....\$100.00
1 30" Buss Extra Heavy Hand Jointer.....\$125.00
Woodworking machinery of all kinds.
Write, stating your requirements.

CLEVELAND BELTING & MACH'RY CO.
1922 Scranton Road Cleveland, O.

We do not make extravagant statements about the condition of our

Used Machinery

We have made and intend to retain our reputation for reliability.

Prentiss Tool & Supply Co.

Singer Bldg., NEW YORK

DIESEL OIL ENGINES

Two 75 H. P. Three-Cylinder Belted Type; seen running. Bargain.

POWER EQUIPMENT COMPANY
500 Fifth Avenue, New York

ELECTRIC TRAVELING CRANE

For Sale

Ten-ton electric traveling crane in good condition. Suitable for lifting and conveying logs, heavy castings, stone and marble. Just the thing for marble works, foundry or sawmill. For price, description and photograph address

CHARLES E. GRANT Naples, Texas

BORING MILL

84" Sellers, overhauled by Sellers Co., complete with 2 heads, \$650.

4 24"x6 Deane Triplex Pumps, designed for 750 lbs. pressure, \$60 each.

Geo. Sechsmair & Co 145 N. 3d St., Phila., Pa.

SAFES

Three very fine burglar-proof safes, suitable for bank, factory or large mercantile house. Rare bargain. A full line of new and used safes.

THE HOWE SCALE CO.
CINCINNATI, OHIO

FOR SALE

1-75 K. W. Bullock 60-cycle, 3-phase, 220-volt Alternator, direct connected to 12x15 Skinner Automatic Engine. Practically good as new.

1-16x22 Atlas Left-Hand HEAVY-DUTY 4-Valve Engine. Wheel 9 feet in diameter by 22 1/2-inch face.

3-100 H. P. each 66"x18" BUTT STRAPPED, TRIPLE RIVETED Horizontal Tubular Boilers Complete.

Pfannmueller Engineering Co.

Suite 1733 First National Bank Bldg.

CHICAGO

BARGAINS

1 35 H. P. Triumph, 110-125-volt, compound wound, D. C. Motor or Generator.
1 37 1/2 K. W. Westinghouse 125-volt Generator.
1 3 H. P. Westinghouse 3-phase A. C. Motor.
1 each 2, 5 and 10 H. P. General Electric 3-phase Motors, 1200 R. P. M.
1 3"x8" Ingersoll Belt-driven Air Compressor.
1 8"x8" Ingersoll Duplex B. D. Compressor.
1 10 1/2"x12" Ingersoll-Rand B. D. Compressor.
Refrigerating Machines, 2 to 100 tons.
Gas Engines, 2 to 500 H. P.
Motors, all sizes, A. C. and D. C.

THE ASSETS PURCHASING CO.

WHEELING, W. VA.

WIRE ROPE

We have accumulated a stock of wire rope that we offer at bargain prices. The lengths run from 60 to 3000 feet, from 3/4 to 1 1/2 inches diameter. These are new ropes and perfectly good for a variety of purposes, but are of construction different from our regular stock ropes. It will pay you to get a list of these with our prices.

Broderick & Bascom Rope Co.

805 N. Main St. ST. LOUIS, MO.

WE HAVE

16 Water-Tube Boilers

200-400 H. P.

FOR SALE CHEAP

EDGAR M. MOORE & COMPANY
PITTSBURGH

Tampa Machinery Exchange

TAMPA, FLA.

Buy, Sell and Exchange Machinery of All Kinds
WRITE US YOUR WANTS

FOR SALE

Boilers, Stationary Engines, Hoisting Engines, Pumps, new and second-hand, every size and for every duty.

HOWARD W. READ COMPANY
Third and Arch Sts. Philadelphia, Pa.

SPECIALS

18x42 Lane & Bodley Corliss Engine, 2 years' service, \$450.
Three 72"x18" H. R. T. Boilers, 2 years' service, 150 pounds pressure, \$400.
500 H. P. Heine Water-Tube Boiler, 6 years' service, 150 pounds pressure, \$1675.

DUZETS & SONS

Hudson Terminal Bldg. NEW YORK

STEAM ENGINE AND MOTOR DRIVEN PUMP

25 H. P. 9x12 Nagle Center-Crank Plain Slide-Valve Engine in excellent condition at low price.

Motor-Driven Centrifugal Pump, 250 gals. per min. against a 225-ft. head, practically new, at half price. Will equip with any style motor desired.

Electrical apparatus of all kinds at lowest prices.

V. M. NUSSBAUM & CO., Fort Wayne, Ind.

Motors, Dynamos, Switchboards, Etc.

400 H. P. G. E. Induction Motor, 720 R. P. M., 2200 volts, complete.....\$2000.00
75 H. P. Westinghouse, slip ring.....425.00
75 H. P. G. E., slip ring, new, 850 R. P. M., complete.....500.00
50 H. P. Allis-Chalmers, 3-phase, new, 850 R. P. M., complete.....300.00
50 H. P. G. E., 2-phase, 850 R. P. M., complete.....245.00
35 H. P. G. E., 3-phase, 850 R. P. M., complete.....215.00
35 H. P. Westinghouse, 2-phase, 1140 R. P. M., complete.....200.00
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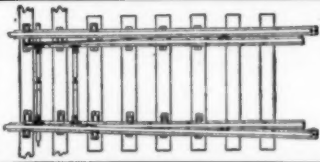
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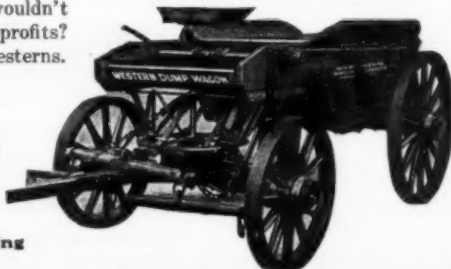
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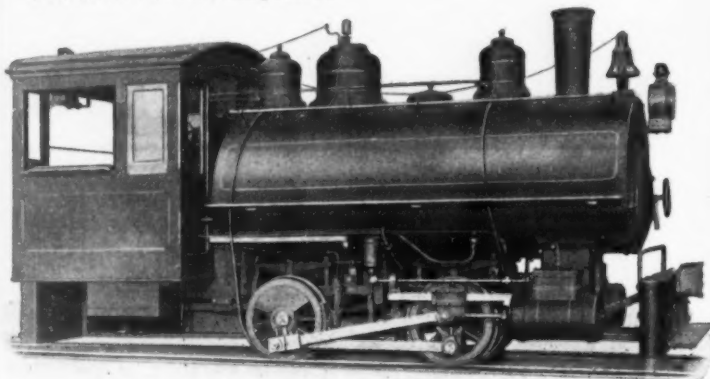
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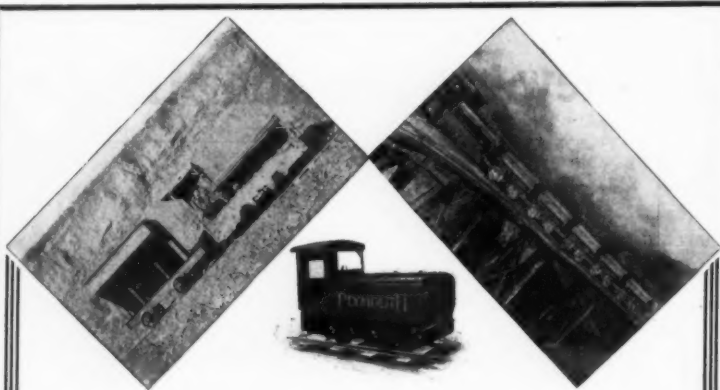
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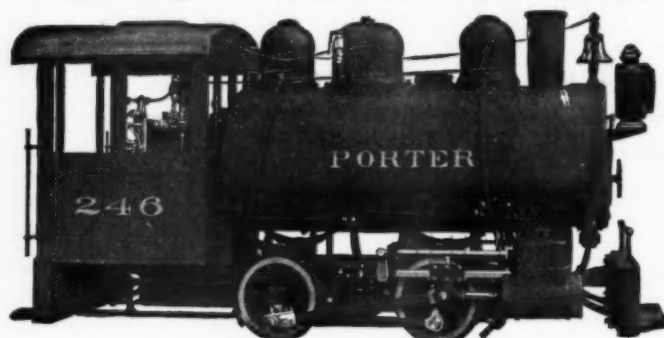
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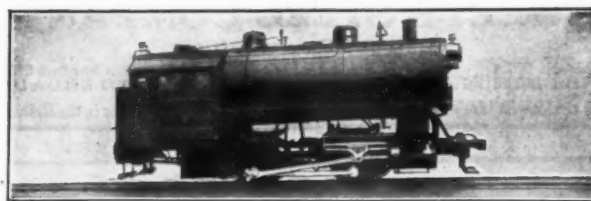


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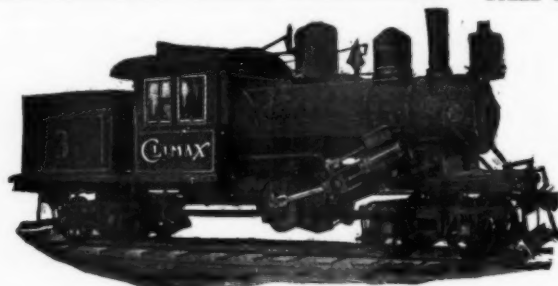
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Mechanically Correct in Design and Workmanship
Any Size. Erected Anywhere

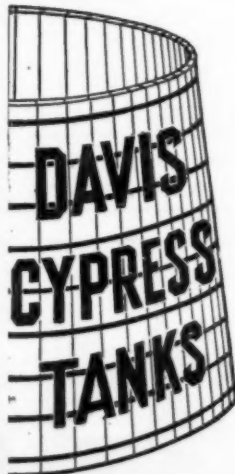
Structural Iron Work Stand Pipes Boilers

R. D. COLE MFG. CO. - NEWNAN, GA.**WATERBURY
WIRE ROPE**

of Standard and Armored Construction. Manila and Sisal Cordage. Fibreclad Wire Rope. We make Ropes for every purpose. Write for prices.

WATERBURY COMPANY

80 South St. NEW YORK
Chicago San Francisco Dallas
Boston New Orleans

**"Can't Leak and Won't Warp"****A Davismade Tank**

is the combination of Cypress of the highest grade and twenty-five years' experience in our special line.

WRITE TO US.

G. M. DAVIS & SON

PALATKA, FLA.

**TANKS ON TOWERS
STANDPIPES
STEEL RIVETED PIPE**

Tanks Anywhere for
Any Service

If Made of Steel We Make It

Structural Steel Work

Chattanooga Boiler & Tank Co.
CHATTANOOGA, TENN.

Insane Hospital,
Nevada, Missouri**Tanks and Towers
Steel Storage Tanks
Plate Work****Structural Steel Work**

**MEMPHIS STEEL
CONSTRUCTION COMPANY**
OF PENNSYLVANIA

Plant at Greensburg, Pa.
(In the Pittsburgh District).

OFFICES { 1601 First Nat. Bank Bldg.
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Greensburg, Pa.
Memphis, Tenn.

LIGHT FOR YOUR NIGHT SHIFT

Milburn Portable Acetylene Lights—100 to 20,000 Candle-power.

Milburn Oxy-Acetylene Plants for Welding and Cutting.

ALEXANDER N. MILBURN CO.**BALTIMORE, MD.**

Vertical Farming PROVED



ALL progressive farmers and orchardists know that trees planted in blasted ground grow much faster than those planted in the old way and bear fruit earlier.

This proves the truth of the principles of Vertical Farming, which aims to cultivate downward as well as to till the top soil.

Three years ago tree planting in blasted holes was experimental—now millions of trees are set out by the Vertical Farming method every spring and fall.

In like manner, blasting the subsoil to increase general crop yields, now regarded as experimental, will in a few years, be common.

To learn how and why Vertical Farming may double the yields of your farm, get the Free Reading Course in Vertical Farming, by Dr. G. E. Bailey, one of the best works on soils and soil culture ever published. Sent free with every request for our Farmer's Handbook No. F369. Write now.

Established 1802 DU PONT POWDER CO. Wilmington, Del.

Keystone Explosives

QUALITY—EFFICIENCY

Nitro-Glycerine Dynamite
Ammonia Dynamite
Low Freezing Dynamite
Non-Freezing Dynamite

Quarry Powder
Gelatine Dynamite
"Farm Right" Dynamite
Permissible Powders

EVERYTHING IN HIGH EXPLOSIVES

The success of every blasting operation depends on the Quality and Efficiency of your explosive.

WE SPECIALIZE ON EXPLOSIVES

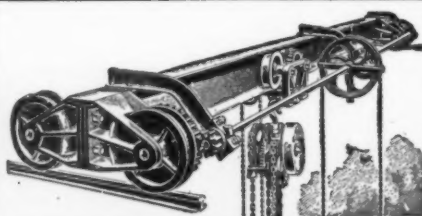
We will be pleased to submit prices and send you our HIGH EXPLOSIVE Catalogue.

Keystone National Powder Company
EMPORIUM, PENNSYLVANIA

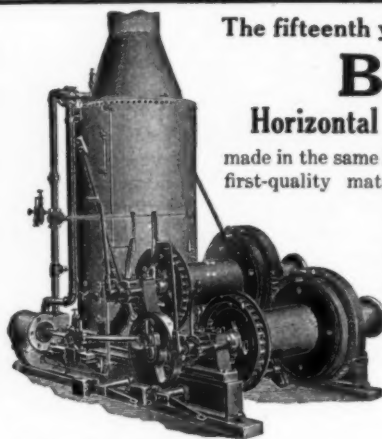
CRANES For All Purposes Electric and Hand Power

Case Standard Cranes are the result of thoroughly tested ideas secured during many years from the best designing and operating engineers. They are manufactured under the most favorable conditions in a plant recently equipped at large expense for this particular purpose. They represent the greatest value for price charged.

THE CASE CRANE & ENGINEERING CO. Columbus, Ohio



HAND POWER
TRAVELING
SWING
CRANES
SIMPLEX
CHAIN HOIST
TROLLEYS AND
OVERHEAD TRAMWAYS
Send for Catalog.
J. G. SPEIDEL, Reading, Pa.



The fifteenth year of the

BYERS

Horizontal Type Hoisting Engine

made in the same high-grade way, and of the same first-quality materials as the BYERS Standard vertical type machines.

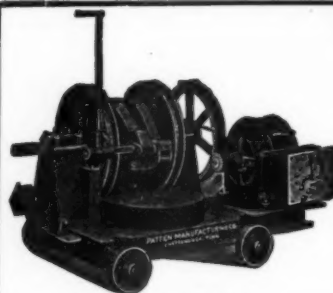
It is hard to improve on correct design, good materials and careful workmanship.

**The John F. Byers
Machine Co.**

Main Office and Works:
Ravenna, Ohio.

Branch Sales Office:
601 Sincere Bldg., Cleveland, Ohio.

Makers of Hoisting and Excavating Equipment, Derrick Fittings, Derrick Cars, Material Elevators, Etc.



Patent Double Platform Hoists

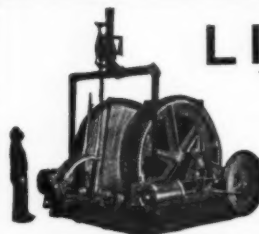
Driven by Electric-Motor, Gasoline
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Single and Double Drum Hoists

PATTEN MFG. CO.

CHATTANOOGA, TENN

Postal Brings Catalogue



Reversing Mine Hoist with
low side stands

LIDGERWOOD MINE HOISTS

Steam and Electric Hoists for Shafts, Inclines,
Haulage, etc., of every style.

STEAM

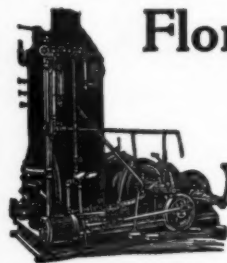
Up to 1000 H. P.

ELECTRIC

Any size

LIDGERWOOD MFG. CO.

96 Liberty Street, NEW YORK



Flory Hoisting Engine

STEAM AND ELECTRIC

For Contractors, Bridge Building, Dredg-
ing, Cableways and General
Hoisting Duty.

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S. FLORY MFG. CO.

BANGOR, PA.



HOISTING ENGINES STEAM HAMMERS DERRICKS

For Contractors, Bridge Builders, Dredging,
and General Hoisting Duty.

Send for Catalog.

National Hoisting Eng. Co.

HARRISON, N. J.

W. E. AUSTIN CO., Atlanta, Ga., Southern Sales Mgr.



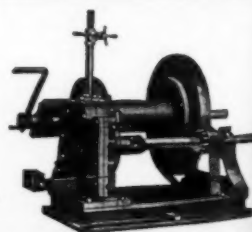
Reversing Air or Steam Motor
(1/2 to 30 H. P.)

WRITE FOR CATALOG
OF OUR

Special and Stationary Engines,
Pneumatic Hoists, Hoisting En-
gines, Swinging Engines, Motor
Crabs, Drill Hoists, Spud Hoists,
etc.

Dake Engine Co.

Grand Haven, Mich.



Simple Construction
Ease of Operation
Low Cost of Maintenance

are some of the features that make the

JEFFREY Pivoted Bucket Elevator-Conveyer

the ideal equipment for handling Coal and Ashes, Cement Clinker and other similar bulk materials.

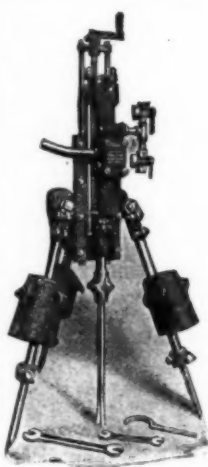
Made in sizes for Small, Medium and Large Capacities.

Write for Bulletin No. 32-A-26

JEFFREY MFG. CO., 926 North Fourth St., Columbus, O.



Conveyer illustrated above handles 50 tons of coal per hour from railroad cars to coal bunkers.



WICKES BROTHERS MURPHY LITTLE CHAMPION ROCK DRILLS FOR AIR OR STEAM WICKES BROTHERS

443 CLAREMONT AVENUE
JERSEY CITY, N. J.

AGENCIES

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J. M. Alexander	-	-	Atlanta, Ga.
Moore-Handly Co.	-	-	Birmingham, Ala.
Thos. L. Barret	-	-	Louisville, Ky.
Smith Drill and Mach'y Co.	-	-	Chattanooga, Tenn.
Colonial Supply Co.	-	-	Pittsburgh, Pa.

American Steel & Wire Company's Trenton-Bleichert System

Aerial Tramways

We are the sole licensees in America of this type of construction. Every detail has been thoroughly worked out and we put into these constructions only material of the most approved and substantial kind, including

American Wire Rope

No matter what the contour of the ground, we will construct a tramway that will transfer material in a bee-line at minimum expense; and no grades are too steep to surmount; no rivers or valleys too wide to cross; and no grading, bridges or viaducts of any kind are required. There is practically no limit to the length of these tramways. We have one line carrying ore twenty-one miles.

Write for our complete descriptive book showing every form of application. And we will be glad to work upon propositions submitted to us, returning full and complete specifications and costs of construction.

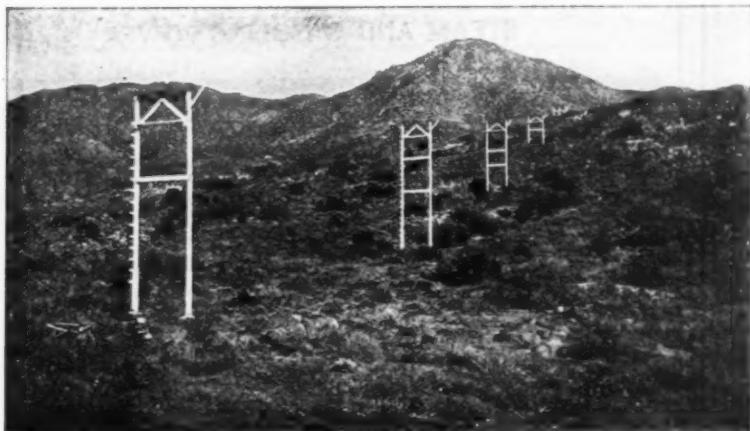
American Steel & Wire Company

Chicago New York Cleveland Pittsburgh Worcester Denver
Export Representative: U. S. Steel Products Co., New York
Pacific Coast Representative: U. S. Steel Products Co.,
San Francisco, Los Angeles, Portland, Seattle

You can have from us, if desired, a firm bid for the Lawson Automatic Tramway,

DELIVERED AND ERECTED

It is the invariable practice of other builders to make a price delivered f. o. b. cars. The cost of erection is always at the owner's risk, under per diem supervision furnished by the builders and based only on an estimate. While this is just and equitable, the average buyer nevertheless generally prefers to know absolutely what his tramway will cost him complete and ready to run. Now he can know. Why do we have this advantage.



ACROSS THE DESERT

information which must be furnished by the purchaser. All this will be brought out by correspondence. In your original inquiry merely give us general data as to length, capacity and grade of line and kind of material handled.

Bulletins A and B describing the Automatic Tramway will be sent on request, and several other Bulletins are in preparation.

Very respectfully,

AMBURSEN COMPANY,

(Tramway Department)

The Ambursen Company is not a manufacturer of wire rope, but is organized as Engineer-Constructors. For ten years we have handled heavy construction amounting to many millions of dollars, in busy times having as high as 3000 men in the field.

The officers of the Company, in various capacities, have had a construction experience of from twenty to thirty years. We are therefore familiar with every detail of construction economy, and are organized and equipped to carry out work of this character on a contract basis.

There is not sufficient space in this advertisement to set forth the character of the information

61 Broadway, New York



HAYWARD BUCKETS

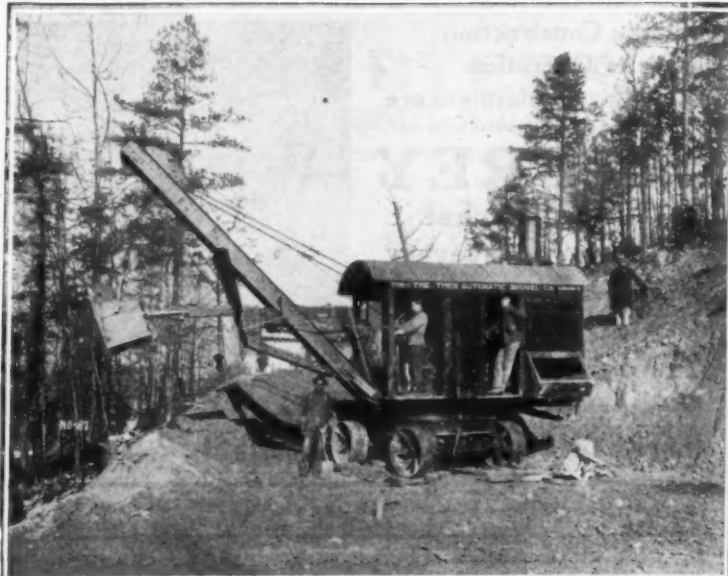
**Make Digging Between
Cross Braces Easy**

ON the sewer contract illustrated above a Hayward Orange Peel Bucket is digging between cross-bracing, bearing out our claim that Hayward Buckets may be easily and safely operated in cramped quarters. They will do the work of many men; do it quicker and at a lower cost.

There is digging on every contract for Hayward Buckets, work that no other class of machine can do. Tell us about the kind you have in hand and we will send you some interesting and appropriate illustrated pamphlets.

THE HAYWARD COMPANY

50 Church St., New York
U. S. A.



THE CHATTANOOGA RY. & LIGHT COMPANY'S TYPE "O" THEW SHOVEL

The Thew Shovel Is Standard

— FOR —

Brick Yards, Road Building, Street Grading, Cellar and Sewer Digging, Electric Railway Construction and All Excavations involving daily outputs of 1000 cubic yards or under.

1200 Thew Shovels are now in operation. Some of them are near you.

Write for Catalog "M" and List of Thew Owners

THE THEW AUTOMATIC SHOVEL CO.
LORAIN, OHIO



The American Steam Shovel

Strictly a contractor's shovel. Revolving type. Handy to operate. Simple, Strong, Durable.

New catalog. Get a copy.

The American Clay Machinery Co.
BUCYRUS, OHIO

Monighan Drag Line Excavators

STEAM AND GASOLINE POWER



The excavator shown in this cut can be placed on the work at less cost than any other excavating outfit. Crew for operating machine consists of only two men. The excavator is mounted on traction wheels provided with self-propelling mechanism. Boom is 40 feet long. One cubic yard bucket. We will give you, upon request, full information regarding capacity, cost of operation, etc.

We build excavators with booms from 40 to 125 ft. long and buckets from one to three cubic yard capacities.

Write for Excavator Catalog

MONIGHAN MACHINE CO., 2022 Carroll Ave., CHICAGO

Agent—P. B. ENGH { 341 Pacific Electric Bldg., Los Angeles, Cal.
704 Hooker & Lent Bldg., San Francisco, Cal.
Everett Bradt & Wright, Houston, Tex.
Everett Bradt & Wright, Dallas, Tex.



CATERPILLAR
Reg. U.S. Pat. Off.

Hauling 48-ton
load—36 tons net—
plenty of power—
no damage to road.

Cheap Hauling

A long list of lumbermen, highway commissioners, contractors, cities—even the U. S. Reclamation Service—finds the Caterpillar the cheapest power for hauling.

It hauls at a profit all the time—even when other tractors and horses are idle on account of bad roads or weather.

A store that closed whenever it rained would soon "go broke." If you make a profit now, working only part of the time, you can make a lot more by working every day with a Caterpillar.

When you are tired of mediocre, fair-weather equipment, ask us to tell what the Caterpillar can save you.

A booklet of special interest to contractors, No. CG 94, by first mail from the nearest branch.

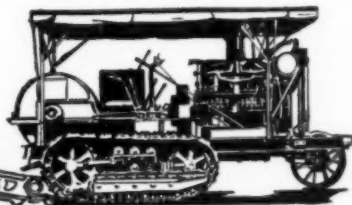
The Holt Mfg. Co., Inc.

Peoria, Ill.

Houston, Texas

50 Church St., New York

Send for
Bulletin
CG 94



For Ditch, Drainage and Irrigation Excavation of All Kinds—

THE BAY CITY LAND DREDGE

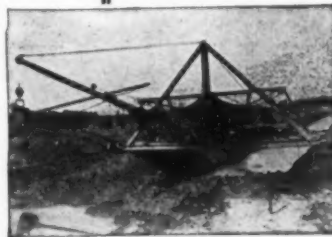
can be used to a big advantage and profit. Also invaluable for water work, as dredge can be easily mounted on float. Can be dismantled, handled on wagons over country roads, reassembled at small cost and used to advantage on small jobs. Self-propelling, quick and economical in operation, low operating and maintenance costs, large capacity, gasoline-engine driven, are a few of its many advantages.

Complete information in free illustrated catalog.

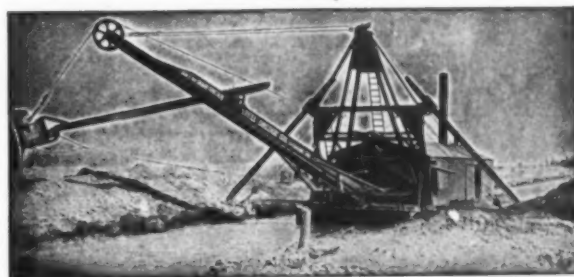
Bay City Dredge Works

2609 Center Ave.

BAY CITY, MICH.



American Steel Dredges



All Sizes. Steel or Wood Hulls. Vertical or Bank Spuds.
Prompt Shipment. Send for New Catalog.

AMERICAN STEEL DREDGE CO.

FT. WAYNE, IND.

ROLLER BEARING CARS AND TRUCKS

OF ALL KINDS. FOR ALL PURPOSES
SWITCHES, TURNABLES

Complete Industrial Railway Equipment

Write for Catalogue and Prices.

THE CHASE FOUNDRY & MFG. CO.

COLUMBUS, OHIO



Style 251-A

To keep in touch with Southern Development, read the Manufacturers Record.

We Manufacture Locomotive Cranes Only OHIO LOCOMOTIVE CRANE COMPANY

BUCYRUS, OHIO

Southern Offices { 94 Home Life Building
1207 Brown-Marx Building

WASHINGTON, D. C.
BIRMINGHAM, ALA.

A BOOK about MACHINERY for GRINDING and SEPARATING FREE

It fully catalogues the Raymond Pulverizing and Air Separating System, yet it is a good deal more than a catalogue, and is full of information valuable to any company which reduces any material to powder. Ask for a copy.

RAYMOND BROS. IMPACT PULVERIZER COMPANY

1304 North Branch Street, Chicago, Ill.

Complete Plants for Washing and Preparing Hematite Ores and Phosphate Rock

WASHERS, Wood or Steel Logs. ORE JIGS for Hard Service. ELEVATORS,
All Steel. CONVEYORS, All Steel. REVOLVING SCREENS of All Kinds.

CATALOGUE FOR THE ASKING.

McLANAHAN-STONE MACHINE CO.

HOLLIDAYSBURG, PA.



Buchanan All-Steel Crushers Crushing Rolls
Magnetic Separators

Crushing Plants complete in all details from
100 to 5000 tons daily capacity.

C. G. BUCHANAN CO., Incorporated

Main Office—90 West Street, New York, N. Y.
Branch—1218 Chestnut Street, Philadelphia, Pa.

REPRESENTATIVE:

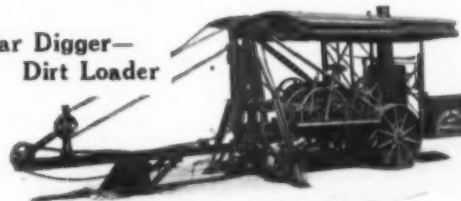
Chas. T. Topping Machy. Co., Bessemer Bldg., Pittsburgh, Pa.

Keystone Traction Excavator

Street Grader—

Ditch and Cellar Digger—

Dirt Loader



all combined in one
general utility machine
for contractors.

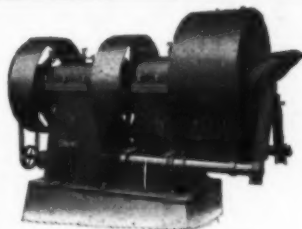
It is light enough
(weighs 8 tons) to
cross culverts and
small bridges safely;
self-moving over steep
and hilly roads; easily
operated and low priced.

Descriptive Bulletin on request.

Handles three kinds of scoops: Dipper, for side hill excavation; Ditcher, for trenches, and Skimmer, here illustrated, for road grading. Economically lifts 6-inch cut, leaving finished surface, any desired slope, within half circle 32 ft. in diam. Capacity 300 to 400 cu. yds. per day.

KEYSTONE DRILL & EQUIPMENT COMPANY

BEAVER FALLS, PA.



SYMONS DISC CRUSHER
Patented

EVENTUALLY SYMONS DISC CRUSHERS

Will be installed in every plant where rock-crushing is a problem.

Made in four sizes.

Capacities, 5 to 120 tons per hour.

Manufactured and sold only by

CHALMERS & WILLIAMS Chicago Heights, Ill.

Eventually—SYMONS DISCS



Note the perfect condition of this Dunn Wire-Cut-Lug Brick Pavement

You are certain that your
pavement will not fail—

when you use

DUNN Wire-Cut-Lug BRICK



Poor laying methods caused this failure

You are certain that joints will not pound away, filler be removed and an unsanitary, noisy pavement result, because Dunn Engineering Service will assist you in laying your pavement.

This Service is gratis. Our Engineers will visit your work and point out where any improper methods are being used—laying, filling, flushing or rolling.

So, not only are you insured against improper handling methods that result in a pavement like the one shown in the small picture, but you are insured as to getting the right BRICK, when you specify Wire-Cut-Lug Brick. Let us tell all the details. Write.

Dunn Wire-Cut-Lug Brick Company

CONNEAUT, OHIO

LICENSEES:

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One plant at Corry, Pa.
United Brick Company, Greensburg, Pa.
One plant at Conneaut, Ohio.
Sterling Brick Company, Olean, N. Y.
One plant at Olean, N. Y.
Reynoldsville Brick & Tile Company, Reynoldsville, Pa.
One plant at Reynoldsville, Pa.
Danville Brick Company, Danville, Ill.
One plant at Danville, Ill.
Clinton Paving Brick Co., Clinton, Ind.
One plant at Clinton, Ind.
Alton Brick Company, Alton, Ill.
One plant at Alton, Ill.
Deckman-Duty Brick Co., Cleveland, Ohio.
One plant at Cleveland, Ohio.
One plant at Carrollton, Ohio.
One plant at Malvern, Ohio.
Tuna Valley Pressed Brick Co., Bradford, Pa.
One plant at Bradford, Pa.

Foster Paving Block Co., Bradford, Pa.
One plant at Bradford, Pa.
One plant at Youngville, Pa.
One plant at Binghamton, N. Y.
Metropolitan Paving Brick Co., Canton, Ohio.
Four plants at Canton, Ohio.
One plant at Willow, Ohio.
Bessemer Limestone Co., Youngstown, Ohio.
Three plants at Bessemer, Pa.
Peebles Paving Brick Co., Portsmouth, Ohio.
Two plants at Portsmouth, Ohio.
One plant at Firebrick, Ky.
The Murphysboro Paving Brick Co., Murphysboro, Ill.
Southern Clay Mfg. Co., Chattanooga, Tenn.
One plant at Robbins, Tenn.
One plant at Coalfield, Ala.
McAvoy Vitriified Brick Co., Philadelphia, Pa.
One plant at Perkiomen Junction, Pa.

Windsor Brick Company, Akron, Ohio.
One plant at Akron, Ohio.
Hocking Valley Brick Co., Columbus, Ohio.
One plant at Logan, Ohio.
Veedersburg Paver Co., Veedersburg, Ind.
One plant at Veedersburg, Ind.
Springfield Paving Brick Co., Springfield, Ill.
One plant at Springfield, Ill.
Terre Haute Vitriified Brick Co., Terre Haute, Ind.
One plant at Terre Haute, Ind.
Albion Vitriified Brick Co., Albion, Ill.
Alliance Clay Products Co., Alliance, Ohio.
Westport Paving Brick Co., Baltimore, Md.
Plant at Westport, Baltimore.
Mack Manufacturing Co., New Cumberland, W. Va.
Four plants at New Cumberland, W. Va.
The Hydraulic-Press Brick Company, St. Louis, Mo.
One plant at St. Louis, Mo.

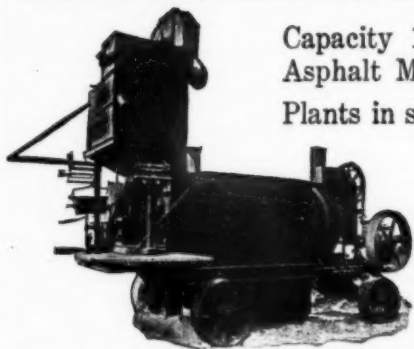
PAVING BRICK

WIRE CUT LUG DUNN PATENT
AND
REPPRESSED

Southern Clay Manufacturing Co.
CHATTANOOGA, TENN.

Three Plants Capacity, 30,000,000

Cummer Road Asphalt Plant

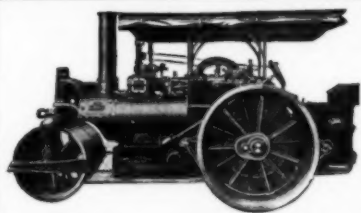


Capacity 1000 yds. 2" top or
Asphalt Macadam per day.
Plants in stock.

Make test before
buying.

Cummer one-car
2000-yard capac-
ity plants in stock.

THE F. D. CUMMER & SON CO. CLEVELAND, O.

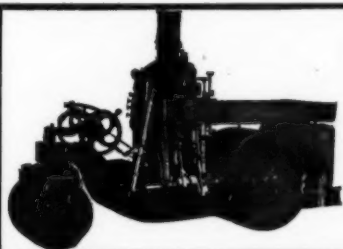


Buffalo Pitts Rollers

BUILT FOR SERVICE

Made in all types and sizes for all purposes,
2½ to 20 tons.

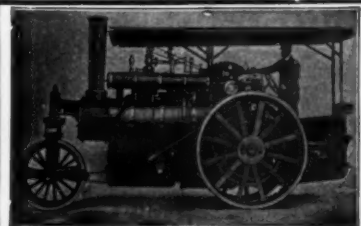
BUFFALO STEAM ROLLER CO.
BUFFALO, N. Y.



Get "ERIE" ROLLERS

for LONG SERVICE
and BEST RESULTS

ERIE MACHINE SHOPS
ERIE, PENNA.



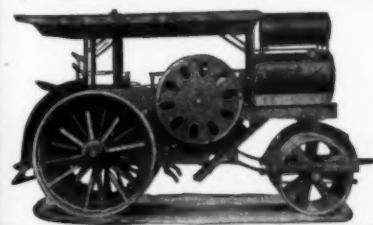
ROAD ROLLERS

ALL TYPES ALL SIZES

Steam and Gasoline

The Kelly-Springfield
Road Roller Co.
SPRINGFIELD OHIO

GET CATALOG



THE OHIO Combination TRACTOR-ROLLER

Gasoline Kerosene
Saves money for the contractor.

Two perfect machines in one.

WRITE FOR CATALOGUE

THE OHIO TRACTOR-ROLLER SALES CO.
Brunson Building Columbus, Ohio

Agencies in Atlanta, Birmingham, Chattanooga,
Houston, Jacksonville, San Antonio

Aztec Asphalt is by every essential test a superior asphalt for paving streets and roads.

Its increasing adoption for heavy traffic pavements is due to a high standard of quality uniformly maintained.



is being used by leading cities, towns and counties in all parts of the country for sheet asphalt, asphaltic concrete, asphaltic macadam (mixed method) and asphaltic macadam (penetration method).

It is highly endorsed by asphalt experts, highway officials, engineers and contractors.

Write Us for Booklets, Quotations
and Other Information

The U. S. Asphalt Refining Co.

90 West Street, New York

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PHILADELPHIA

BALTIMORE
NORFOLK

MONTREAL



East Point Road, Fulton County, Georgia, paved with
Standard Asphalt Binder "C."

STANDARD ASPHALT BINDER "C"

Write for booklet and prices.

STANDARD OIL COMPANY

(NEW JERSEY)


Newark, N. J.

Baltimore Md.

WRITE FOR PRICES

QUALITY—PURITY—DURABILITY—STRENGTH

QUALITY in Corrugated Culverts means Permanence in Business. THAT'S WHY we put QUALITY in our Culverts. Analysis of Metal yours for the asking.



The Salisbury Culvert is constructed in the strongest possible manner, and will outlast any other culvert on the market.

SALISBURY METAL CULVERT COMPANY

SALISBURY NORTH CAROLINA

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Crushed and Broken Granite
Weston & Brooker Quarry Company
 LARGEST OUTPUT
 QUICKEST DELIVERIES in the South Atlantic States
 QUARRIES, CAYCE, S. C.
 OFFICE, Columbia, S. C.

AMERICAN INGOT IRON "ARMCO" CULVERTS 99.84% PURE IRON
Demand
 Triangle Brand on Every Sheet
 This Triangle Trade-Mark is YOUR PROTECTION
 TENNESSEE METAL CULVERT CO.
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GRANITE MONUMENTAL BUILDING or CRUSHED STONE
 WRITE FOR SAMPLES AND PRICES
ATLANTIC STONE COMPANY
 Quarriers of Original "Oglesby"
 835 Equitable Bldg., ATLANTA, GA. Quarries—OGLESBY, GA.

Genuine "Open-Hearth" IRON (99.875% Pure)
CULVERTS
 Low relative prices and high quality won't mix. These culverts are sold on quality basis only.
THE NEWPORT CULVERT CO., Inc. NEWPORT, KY.

BALD MOUNTAIN QUARRY
PAUL & CORNELL CO. Newsom, Davidson Co., N. C.
CRUSHED STONE
 (The Hardest Rhyolite)
 FOR BALLAST, CONCRETE, MACADAM, ETC.
 Large Output—Prompt Shipments. Ask for Quotations

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 for all kinds of materials
THE J. R. ALSING ENGINEERING CO.
 Ask for Catalog "M" 90 West St., New York, N. Y., U. S. A.

HIGH GRADE PAVING BRICK
 BEST TESTERS AND MOST DURABLE
THE CARLYLE PAVING BRICK CO., PORTSMOUTH, O.

SAND DRYERS
 —FOR—
 Railroads Foundries Contractors
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 Are fully described in our new CATALOG, which we send FREE
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Galion Sterling Metal Corrugated Culverts



are approved and specified by many of the world's leading Engineers, Highway Authorities and Contractors. Highest Grade Material combined with most skilled workmanship make this the culvert of Greatest Purity, Strength, Durability, Economy and Efficiency. Sterling Metal used in these culverts resists corrosion longer than any other metal used in sheet metal culverts—giving you culverts that last longer than all others. Let us tell you why GALION STERLING METAL CULVERTS are SUPERIOR to all others. Write for information and prices. Catalog describing our complete line of Modern Road Machinery sent on request.

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**Made in the Days of
Salem Witchcraft
In Service 228 Years
and as Good as New**

The old "Wayside Inn" of Sudbury, Massachusetts, made famous by the poet Longfellow, was erected in 1686. The methods and materials employed were those of a people who built for the future.

Some of the iron nails which had held the original clapboards, and which were therefore 228 years old, were recently extracted, and found in almost perfect condition. These being subjected to exact analysis, were found to contain only seven-thousandths of one per cent. of Sulphur, five-hundredths of one per cent. of Carbon, two-thousandths of one per cent. of Manganese, and the merest trace of Copper.

It is undoubtedly due to the practical exclusion of these elements that the iron has given such splendid service.

Iron of a higher total purity than that secured by the old-time puddling process was not commercially available until the development of Armco-American Ingot Iron.



This is the purest, most even and most carefully manufactured iron on the market, and therefore the most durable in exposed situations.



ARMCO AMERICAN INGOT IRON CULVERTS

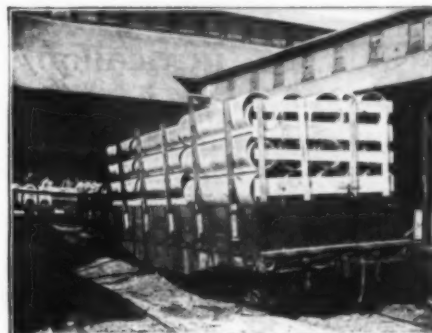
in all the details of construction are worthy of this unequalled material. This is the most practical and reliable form of highway and railroad drainage.

For full information on Armco Corrugated Culverts (Full and Part Circle), Siphons, Sheets, Roofing and Formed Products, write

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Riveted Corrugated Culverts?

We make two styles of Culvert. Our standard—the BEST culvert in the field—is the "ACME" (Nestable) Corrugated Culvert, made only of Anti-Corrosive, NO-CO-RO Metal, in Standard and heavy gauges. Our second grade is



A Carload of Our "IMPERIAL" Riveted Corrugated Anti-Corrosive NO-CO-RO METAL Culverts.

"IMPERIAL" RIVETED CORRUGATED CULVERTS

made of STEEL, or of NO-CO-RO Metal, in either LIGHT or heavy gauge. The manner of construction, the high purity of NO-CO-RO Metal and the better workmanship of "Imperial" will justify you in making this your choice for the riveted type culvert. Catalog G-9.

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THE CAROLINA METAL PRODUCTS COMPANY, Manufacturers in Wilmington, N.C.
For quotations for delivery in Virginia, West Virginia and Maryland, address—
DOMINION METAL PRODUCTS CORPORATION, Manufacturers in Roanoke, Va.
For quotations for delivery in Florida and Georgia, address—
THE FLORIDA METAL PRODUCTS COMPANY, Manufacturers in Jacksonville, Fla.

THE CANTON CULVERT & SILO CO.
MANUFACTURERS
CANTON, OHIO, U.S.A.

To keep in touch with Southern Development, read the Manufacturers Record.



Let us name you prices on
**Genuine
"Armco" American
Ingot Iron Culverts**
for drainage purposes.

We Also Manufacture

**K. T. WATER GATES and
the LENNON PATENT SMOOTH METAL FLUME
Lone Star Culvert Company
HOUSTON, TEXAS**

THERE ARE MORE HARRY'S RED "H" BRAND Corrugated Metal Culverts

in use in the Southern States today than any other kind, and the reasons are obvious.

We have been in business longer than any other Culvert concern in existence.

We are not confined to any one State or District.

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And our best efforts are given to improving our Culverts and keeping them just a little ahead of the other fellow's.

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Your Timber Sawing It
in Scallops on a Poor
Machine.

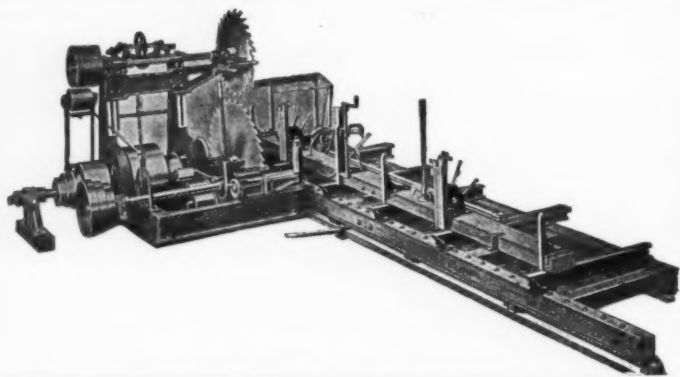
Don't Waste

Your Time Looking for
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The Best is the Cheapest.
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Hotel in the South

Cost Over \$2,000,000

400 Rooms European Plan

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Opposite South Terminal Station
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European Plan.
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Rendezvous of U. S. Navy.

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GEORGE H. HERVEY, Manager



THE TRIP TO PANAMA

is most enjoyable through the logical gateway,
which affords a visit to quaint, historic

NEW ORLEANS

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The St. Charles

Finest All-Year Hotel in the South

Under efficient management from Waldorf-Astoria,
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EUROPEAN PLAN. MODERN. FIREPROOF.

ALFRED S. AMER & CO., Ltd., Props.

Also THE EDGEWOOD, Greenwich, Conn.
"New York's Ideal Suburban Hotel"

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We build more than 150
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our complete line.



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THIS FENCE CAN'T ROT

Fence Around Ford Auto.
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It has been thoroughly protected against decay. It will last two or three times as long as an unprotected fence in the same place and built of the same kind of lumber.

Yet the cost of this extra service was only about 20% added to the first cost.

The posts, stringers and palings were saturated with

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A common laborer with a bucket and brush was all the apparatus needed.

Your buildings, platforms and fences NEED protection. Our way is the easiest and cheapest.

May we tell you about it today?

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TIMBER SUPPLY:—The Best from Louisiana and Texas

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Ties
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We are in position to do all classes of framing before treatment.

Capacity 100 million feet B. M. per annum.

Easy access to New Orleans and all Gulf ports west of Mississippi.

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IT PERMANENTLY WATERPROOFS

Paving Blocks preserved with the Reilly Improved Creosote Oil never

"Bleed," Buckle or Blow Up. Specifications for the asking.

Republic Creosoting Company,

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FOR THE PREVENTION OF SAP-STAIN OR BLUING OF LUMBER

WE RECOMMEND OUR

**ZENITH BRAND
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THE COST IS NOMINAL. NO EXPENSE FOR KILNS. NO FIRE RISK.

WRITE FOR PRICES, FREIGHT AND FULL PARTICULARS.

HIGHEST TEST GUARANTEED.

CHURCH & DWIGHT CO. MANUFACTURERS, 27 CEDAR ST. NEW YORK.
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the largest, best and most complete line Window Frame Pocket Cutters, Sash Pulley Mortisers, Dado Machines, Mitre Machinery and Saw-Guards. On the market today. Write for Catalogue No. 35.

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Barrett's
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Creosote Oil

Will Cut Your Wood Preserving Bills in Half

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**NATIONAL LUMBER & CREOSOTING CO.**

Manufacturers of Lumber, Ties, Timbers, Piling, Poles and Paving Blocks
TREATING PLANTS

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Sales Office—HOUSTON, TEXAS

HOUSTON, TEXAS

SOUTHERN CREOSOTING COMPANY, Ltd., SLIDELL, LA. U. S. A.

Twenty-eight miles from New Orleans, La., surrounded by the finest timber lands in the South. Facilities for shipping by water and rail.

Creosoted Ties, Telegraph Poles, Cross Arms, Timber, Piles and Paving Blocks

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Capacity, 22,000,000 feet per annum.

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Private free wharf for ocean vessels

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Plant at New Orleans, La.

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WOOD BLOCK PAVING

RAILWAY TIES AND TIMBERS

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Engravings for the Printer,
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OPPORTUNITIES IN THE SOUTH

— FOR —

Manufacturers, Investors, Merchants, Farmers and Homeseekers

In the following pages leading railroads and a number of towns and cities invite your attention to the opportunities possessed by the rapidly developing South for every line of industry, for investments, and as a place for home-making in the city and on the farm.

The marvel of the day, commanding the world's attention to a greater extent probably than the development of any other section has ever received, is the amazing material unbuilding of the South. Everywhere men in every walk of life are beginning to study the South. They are coming to realize something of its matchless resources, to know something of the opportunities which it presents for manufacturing and for mining operations, for city building activities, for the utilization on a large scale of the cut-over timber lands and the reclaimable wet lands of the South.

With a view to presenting to the world from week to week the resources and the growth and the opportunities which are offered for all of these things, some of the leading railroads of the South and Southwest, some of the great public service corporations intimately identified with the upbuilding of this section and some of its progressive towns and cities from week to week tell the story of what they have to offer to the manufacturer, to the investor, to the merchant, to the pleasure-seeker, to the health-seeker. Study the pages that follow, and if you are at all interested in knowing about the South and its opportunities, its resources and its progress, if you want to keep in touch with that section which is attracting greater attention than any other part of America, get in communication with the organizations whose advertisements are to be found in the following pages.

THE WEST POINT ROUTE

Atlanta & West Point Railroad THE WESTERN RAILWAY OF ALABAMA

Offers excellent locations for

Truck, Fruit, Stock and General Farming

Available Factory Sites. Abundance of Raw Material and Good Transportation Facilities
Write for information.

E. S. CENTER, General Agent, ATLANTA, GA.

Hosiery Mill Location

Will be glad to confer with interested parties regarding excellent location for hosiery mill. Splendid building now ready for machinery.

Healthful location, ample supply of labor, citizens of community interested in seeing development made.

Seaboard Air Line Railway

J. A. PRIDE, General Industrial Agent

NORFOLK, VA.

To the

MANUFACTURER and DISTRIBUTOR

Abundant supplies of coal, coke, iron, timber and other raw materials lie in the regions of Georgia and Alabama which are traversed by the

Central of Georgia Railway

Cheap electric power, numerous undeveloped water-powers, good home markets and excellent shipping facilities. Therefore, manufacturing conditions are ideal.

Many of the cities on the Central of Georgia Railway occupy advantageous positions for distributing warehouses, and a number of the larger northern and eastern manufacturers supply their southeastern trade from branch houses in these cities.

Full and detailed information upon application.

**J. M. MALLORY, Industrial Agent
SAVANNAH, GEORGIA**

Attractive Factory Sites ON THE Illinois Central Railroad

For full particulars address the undersigned

Free books of information on farm lands issued by the
Illinois Central Railroad

ABOUT THE SOUTH

MISSISSIPPI—A WONDERFUL AGRICULTURAL STATE

LOUISIANA—NATURE'S GARDEN SPOT

MR. FARMER, THE YAZOO-MISSISSIPPI DELTA

IS CALLING YOU

THE PHILOSOPHY OF A NORTH MISSISSIPPI
FARM

SOUTH MISSISSIPPI, THE SETTLER'S CHANCE

Everyone who would like a Southern home or Investment should have a copy of one or all of these books. For free copies address

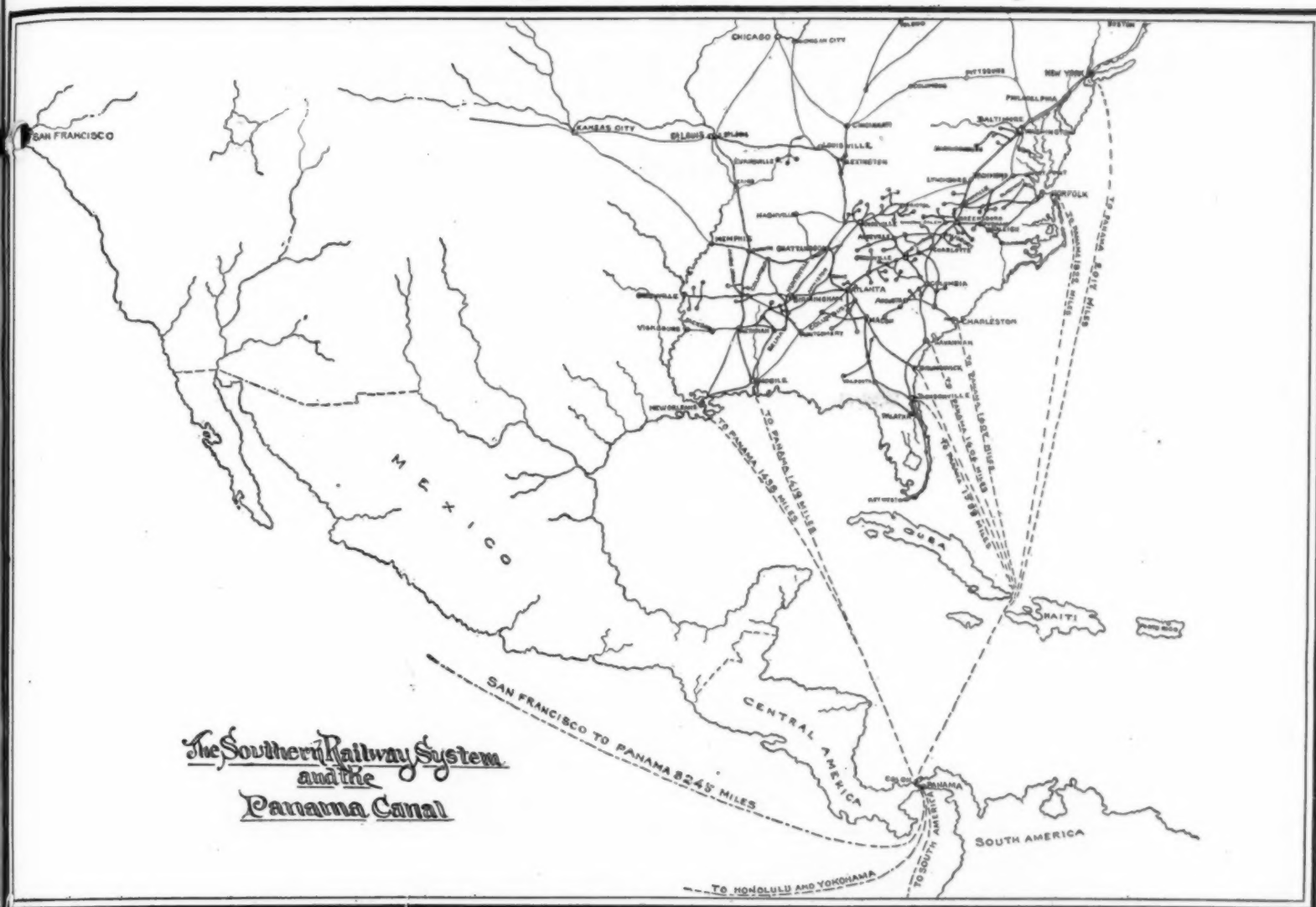
J. C. CLAIR

Industrial and Immigration Commissioner

ILLINOIS CENTRAL RAILROAD COMPANY

135 East 11th Place, CHICAGO, ILL.

The Map Tells the Story



Get Closer to South American Trade

Locate your factory amid the South's great supplies of raw materials—Cotton, Timber, Iron, Steel, Clays and Earths—where practically inexhaustible Coal supplies are convenient and cheap, where hydro-electric developments have made available more than a million horse-power, and where reliable labor is plentiful at reasonable wages.

The South American Agent of Southern Railway Company will help you find markets for your products in Central and South America.

If you want to reduce your manufacturing costs, establish a distributing warehouse, or locate in America's most charming home section, let us have an industrial agent call on you and tell you, free of cost, about the advantages of the South and Southern Railway service.

Virginia	Alabama
North Carolina	Mississippi
South Carolina	Tennessee
Georgia	Kentucky
Florida	Southern Indiana
Southern Indiana	Southern Illinois

M. V. RICHARDS
Industrial and Agricultural Commissioner
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Southern Railway
Mobile & Ohio Railroad
Georgia Southern & Fla. Ry.
Virginia & Southwestern Ry.
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West Virginia's Limestone— *Unexcelled in Quantity or Quality*

West Virginia possesses in extent and value deposits of limestone unexcelled in the country.

These deposits offer unlimited possibilities for the establishment of industries along substantial and profitable lines.

Being of exceptional purity, they are highly desirable for the manufacture of Portland cement, hydrated, agriculture and other lime products, fluxing stone, etc.



A Modern Lime Products Plant in West Virginia.

In addition to its limestones, West Virginia has an abundant supply of natural gas, oil, coal, clays, shales, all in practically inexhaustible quantities, thus providing all of the requirements necessary for the location and economical operation of the industries enumerated.

A large proportion of these deposits are close to the Baltimore & Ohio Railroad, which, with its unsurpassed fast freight service, offers the best distribution facilities to the East, North and West in a consuming territory that is always expanding.

The Baltimore & Ohio Railroad wishes to encourage in every way possible the location of new industries along its lines and to co-operate to the fullest degree with those already established.

Offering as it does the most modern and complete equipment, equal to the needs of the heaviest traffic, the Baltimore & Ohio will gladly furnish through its Industrial Department full information as to inviting opportunities available in its territory.

Baltimore & Ohio Railroad

W. W. WOOD, General Industrial Agent
Baltimore, Md.

Fine Industrial Sites

Are you organizing a manufacturing enterprise?
Are you seeking a new location for your plant?
Are you to build a branch plant in the South?

Before deciding either of these important questions, which are of the utmost importance to you, because they may mean the success or failure of your undertaking, write to us.

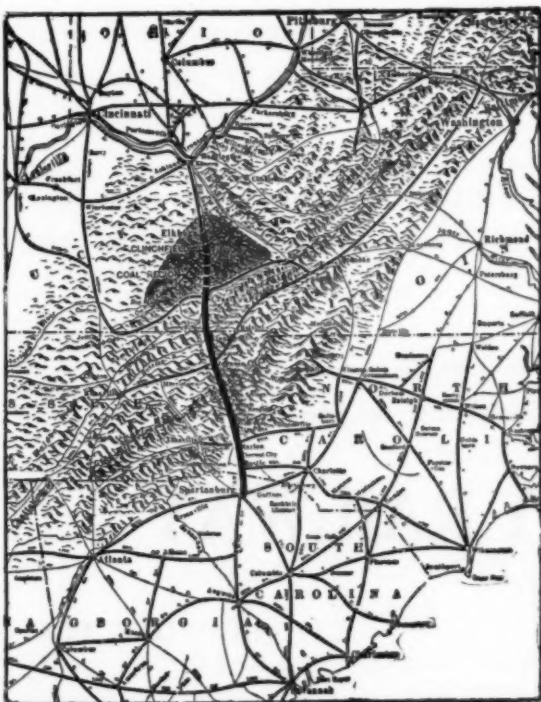
Tell us what kind of plant you are going to establish and the exact conditions you are seeking to obtain.

Proximity of raw materials and consuming markets for your finished products, with adequate railroad facilities for reaching them, and labor, health and climatic conditions are all important factors entering into economical and profitable manufacture.

To find these conditions ideally located is your aim.

We believe we have on the "Clinchfield Route" the very sites you are looking for, and should like to describe them to you.

You will make no mistake by investigating our offer.



Detailed information regarding especially well located sites for industries along the "Clinchfield Route" will be gladly furnished. Send for our booklet "The Land of Opportunities," which illustrates and describes this wonderful country.

**Carolina,
Clinchfield & Ohio Rwy.**

"THE ROAD OF OPPORTUNITY"

**R. F. BREWER, Industrial Agent
Johnson City, Tenn.**

Florida's Wonderful Growth And Magnificent Opportunities

Florida is advancing in population twice as rapidly as the country at large. Taking the entire area from the Atlantic Ocean to the Mississippi River, the rate of increase was 19.4 per cent., against Florida's 42.4 per cent. This growth of population has been in progress for some years.

The farm land values in Florida increased 203 per cent. between 1900 and 1909, while the increase for the United States was 118 per cent., but little more than one-half of the rate of increase in Florida.

The following additional facts further emphasize the growth of Florida:

The value of farm implements and machinery in the country increased between 1900 and 1909.....	68%
In Florida the rate of increase was.....	<u>126%</u>
The value of Florida's 12 leading diversified crops common to most of the country (and not including the citrus crops, so large a factor in the agricultural interests of this State) increased from \$6,677,000 in 1899 to \$15,104,000 in 1910.	
This was a gain of.....	<u>126%</u>
The gain in the whole country for the same crops was.....	81.1%
Between 1900 and 1909 the capital invested in factories increased in the whole country at the rate of.....	108.8%
In Florida the rate of gain was.....	<u>152.6%</u>
The value of factory products increased during the same time in the United States.....	81.7%
The value of factory products in Florida increased.....	<u>112.7%</u>

These illustrations throw a flood of light upon the progress of Florida.

Toward Florida thousands of people are turning their faces, as to the promised land of health and prosperity. The progress of the last 10 years is only a hint of what the future will show.

Active, energetic, live people want to live in an active, energetic, live community, where the tide of incoming population gives every man a chance to develop every latent power in him. Florida is the place.

*We shall be glad to supply you with full information upon
any phase of Florida's growth that may specially interest you.*

FLORIDA EAST COAST RAILWAY

(FLAGLER SYSTEM)

J. E. INGRAHAM, Vice-President

ST. AUGUSTINE, FLA.

HOMESEEEKERS' RATES FOR 1915

Seaboard Air Line Railway

The Progressive Railway of the South

Announces the establishment of attractive Round-Trip Homeseekers' Rates to Progressive Florida.

TO	FROM	
	WASHINGTON, D. C.	CINCINNATI, OHIO
	January 12th, February 9th and FIRST and THIRD TUESDAYS in each succeeding month.	January 5th and 19th and FIRST and THIRD TUESDAYS in each succeeding month.
TICKETS GOOD FOR 21 DAYS		
NORTH FLORIDA		
Lake City	\$22.65	\$27.10
Quincy	24.55	25.60
Tallahassee	24.45	25.60
THE BEAUTIFUL LAKE COUNTRY		
Ocala	25.00	30.00
Orlando	25.00	30.00
Oviedo	25.00	30.00
Leesburg	25.00	30.00
Tavares	25.00	30.00
POLK COUNTY HIGHLANDS		
Bartow	25.00	30.00
PEERLESS PINELLAS		
St. Petersburg, Clearwater, Tarpon Springs, Elfers via Tampa	25.00	30.00
THE FAMOUS MANATEE COUNTY		
Palmetto, Parrish, Terra Ceia Manatee, Bradentown, Bee Ridge Oneco, Sarasota Venice	25.00	30.00
TAMPA, PLANT CITY	25.00	30.00

These tickets will be on sale at Washington, D. C., January 12th and February 9th, and two dates in each month thereafter. At Cincinnati on January 5th and 19th, and two dates in each succeeding month—the FIRST and THIRD TUESDAYS—good for 21 days. You can stop at Jacksonville, Florida's greatest city. It will repay you. Stopovers also south of Jacksonville going and returning.

The rates and service from The Nation's Capital, WASHINGTON, offers splendid opportunity to the people from the Eastern States to make a Florida trip cheaply and comfortably.

The CINCINNATI rates offer a similar opportunity to the people of the Central States.

You can find attractive openings in the progressive State of Florida. We shall be glad to answer your inquiry for complete information.

SEABOARD AIR LINE RAILWAY

The Progressive Railway of the South

J. A. PRIDE, General Industrial Agent

NORFOLK, VIRGINIA

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- Abrasive Materials.**
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Vitrified Wheel Co., Westfield, Mass.
- Accountants.**
Baltimore Audit Co., Baltimore, Md.
- Accumulator. (Hydraulic.)**
The French Oil Mill Mch. Co., Piqua, Ohio.
- Acetylene Service.**
Prest-O-Lite Co., Inc., The Indianapolis, Ind.
- Adding Machines.**
Burroughs Adding Machine Co., Detroit, Mich.
- Agricultural Implements.**
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Chicago Pneumatic Tool Co., Chicago, Ill.
Clayton Air Compressor Works, Cambridge, Mass.
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Laidlaw-Dunn-Gordon Co., Cincinnati, Ohio.
Sullivan Mch. Co., Chicago, Ill.
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Aluminum Company of America, Pittsburgh, Pa.
- Ammonia Valves and Fittings.**
Frick Co., The Waynesboro, Pa.
York Mfg. Co., York, Pa.
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Milburn, Heister & Co., Washington, D. C.
Siering, J. E., Greenville, S. C.
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Bolles Iron & Wire Wks., J. E., Detroit, Mich.
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Schreiber & Sons Co., The L., Cincinnati, O.
Snead Architectural Iron Wks., Louisville, Ky.
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Hinswanger & Co., Memphis, Tenn.
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Asbestos Protected Metal Co., Pittsburgh, Pa.
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Standard Oil Co., Inc., Newark, N. J.
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- Asphalt Mixers.**
Erie Machine Shops, Erie, Pa.
- Asphalt Paving Plants.**
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- Automobile. (Gasoline Passenger.)**
White Co., The, Cleveland, Ohio.
- Automobiles. (Second Hand.)**
Mar-Del Mobile Co., Baltimore, Md.
- Axles. [See Car Wheels, Axles and Trucks.]**
- Babbit Metal. [See Anti-Friction Metal.]**
- Ballast. (Railroad.)**
American Ballast Co., Knoxville, Tenn.
Bald Mountain Quarry, Newson, N. C.
Chicomauga Quarry & Const. Co., Chattanooga, Tenn.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.
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Halsey & Co., N. W., New York, N. Y.
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Nuven & Co., John, Chicago, Ill.
Peabody, Houghsteling & Co., Chicago, Ill.
Powell, Garard & Co., Chicago, Ill.
Provident Savings Bank & Trust Co., Cincinnati, O.
Southern States Development Co., New York, N. Y.
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First National Bank, Richmond, Va.
Merchants-Mechanics' Nat'l Bank, Baltimore, Md.
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National Exchange Bank, Baltimore, Md.
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Dow Wire & Iron Works, Louisville, Ky.
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Dufur, Baggett & Co., Baltimore, Md.
Eureka Supply Co., Chattanooga, Tenn.
Geyer Mfg. Co., Hamilton, O.
Ohio Elevator & Machine Co., The, Columbus, O.
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Lackawanna Steel Co., Lackawanna, N. Y.
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Gulf States Steel Co., Birmingham, Ala.
Pardee Works, O., Perth Amboy, N. J.
- Bars, Wire, Wire Fabric, etc. (For Reinforced Concrete.)**
Cincinnati Iron & Steel Co., Cincinnati, O.
Corrugated Bar Co., Buffalo, N. Y.
Hoffman & Co., Inc., R. O., Baltimore, Md.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Laclede Steel Co., St. Louis, Mo.
- Bearings. (Oilless.)**
Metalline Co., Long Island City, N. Y.
- Bedford Stone**
Bedford Steam Stone Works, Bedford, Ind.
- Belting. (Leather, Canvas, Rubber.)**
American Supply Co., Providence, R. I.
Bailey Leiby Co., Charleston, S. C.
Baltimore Belting Co., Baltimore, Md.
Cameron & Barkley Co., Charleston, S. C.
Chesapeake Belting Co., Baltimore, Md.
Druid Oak Belting Co., Inc., Baltimore, Md.
Frederick Belting Co., St. Louis, Mo.
Gandy Belting Co., Baltimore, Md.
Graton & Knight Mfg. Co., Worcester, Mass.
Main Belting Co., Phila., Pa.
Schieren Co., Chas. A., New York, N. Y.
Smith-Courtney Co., Richmond, Va.
- Belting. (Chain.)**
Bartlett & Snow Co., O. O., Cleveland, O.
Caldwell & Sons Co., H. W., Chicago, Ill.
Jeffery Mfg. Co., Columbus, O.
Link-Belt Co., Nicetown, (Philadelphia) Pa.
- Belt Cement.**
Graton & Knight Mfg. Co., Worcester, Mass.
- Belt Conveyors.**
Jeffery Mfg. Co., Columbus, O.
- Belt Dressing.**
Dixon Crucible Co., Joseph, Jersey City, N. J.
Gandy Belting Co., Baltimore, Md.
Graton & Knight Mfg. Co., Worcester, Mass.
- Belt Lacing. (Leather.)**
Graton & Knight Mfg. Co., Worcester, Mass.
- Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]**
- Bicarbonate Soda. (Sap Stain Lumber Dip.)**
Church & Dwight Co., New York, N. Y.
- Billets. (Basic Open Hearth Quality.)**
Gulf States Steel Co., Birmingham, Ala.
- Bins (Steel)**
Merritt & Co., Camden, N. J.
- Blackboards. (Slate.)**
East Bangor Con. Slate Co., The, East Bangor, Pa.
Johnson, E. J., New York, N. Y.
- Blocks. (Paving Orescoted.)**
American Orescote Works, New Orleans, La.
- Block Fillers**
Barrett Mfg. Co., Phila. Pa.
Standard Oil Co., Newark, N. J.
U. S. Asphalt Refining Co., New York, N. Y.
- Blowers and Exhaust Fans.**
American Blower Co., Detroit, Mich.
Buffalo Forge Co., Buffalo, N. Y.
General Electric Co., Schenectady, N. Y.
Green Fuel Economizer Co., Mattawan, N. Y.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
South Atlantic Blow Pipe & Sheet Metal Co., Savannah, Ga.
Sturtevant Co., R. F., Hyde Park, Boston, Mass.
- Blow Torches. (For Soldering and Brazing.)**
Prest-O-Lite Co., Inc., The, Indianapolis, Ind.
- Blueprinters.**
Childrey Co., Richmond, Va.
- Boilers.**
Babcock & Wilcox Co., New York, N. Y.
Bailey & James Boiler & Mch. Co., Joplin, Mo.
Cameron & Barkley Co., Charleston, S. C.
Casey-Hedges Co., Chattanooga, Tenn.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Coatesville Boiler Works, Coatesville, Pa.
Cole Mfg. Co., R. D., Newnan, Ga.
Gibbs Machinery Co., Inc., Columbia, S. C.
Harris Bros. Co., Chicago, Ill.
Hartley Boiler Works, Montgomery, Ala.
Jeffery-Griner Machinery Co., Philadelphia, Pa.
Keeler Co., E., Williamsport, Pa.
Keystone Boiler & Foundry Co., Columbia, Pa.
Lombard Boiler & Mfg. Co., Chattanooga, Tenn.
Lombard Iron Works, Augusta, Ga.
Mecklenburg Iron Works, Charleston, S. C.
Murray Iron Works, Burlington, Ia.
New York Central Iron Works Co., Hagerstown, Md.
Phoenix Iron Works Co., Meadville, Pa.
Schofield Iron Works, Macon, Ga.
Southern Engine & Boiler Works, Jackson, Tenn.
Valk & Murdoch Iron Works, Charleston, S. C.
Vogt Machine Co., Henry, Louisville, Ky.
Walsh & Weidner Boiler Co., Chattanooga, Tenn.
Zelicker Supply Co., Walter A., St. Louis, Mo.
- Boiler Covering.**
Chesapeake Roofing & Pipe Covering Co., Baltimore, Md.
- Boiler Graphite.**
Dixon Crucible Co., Joseph, Jersey City, N. J.
- Boiler Tubes. [See Tubes, Boiler.]**
- Boils, Nuts, Rivets, Studs and Washers.**
Progressive Mfg. Co., Torrington, Conn.
Republic Iron & Steel Co., Youngstown, O.
Upon Nut Co., The, Cleveland, O.
- Bonds. (Surety, etc.)**
Fidelity & Deposit Co. of Balto., Baltimore, Md.
- Bottling Outfits.**
Vilter Mfg. Co., Milwaukee, Wis.
- Brass Goods.**
Bailey Leiby Co., Charleston, S. C.
Buckeye Iron & Brass Works, Dayton, O.
Lunkensheimer Co., The, Cincinnati, Ohio.
Powell Co., Wm., Cincinnati, O.
- Brass Railing and Grilles.**
Newman Mfg. Co., Cincinnati, Ohio
- Brewers' Machinery.**
Vilter Mfg. Co., Milwaukee, Wis.
- Brick. (Acid.)**
Hood Brick Co., B. Mifflin, Atlanta, Ga.
- Brick. (Building.)**
Am. Enamelled Brick & Tile Co., New York, N. Y.
Hood Brick Co., B. Mifflin, Atlanta, Ga.
Hydraulic Press Brick Co., St. Louis, Mo.
Kingsport Brick Corp., Johnson City, Tenn.
Scott Brick Co., Alex. A., Knoxville, Tenn.
Southern Face Brick Exchange, Birmingham, Ala.
Standard Brick Co., Macon, Ga.
- Brick. (Enamelled.)**
Am. Enamelled Brick & Tile Co., New York, N. Y.
- Brick. (Fire.)**
Killian Fireproofing & Brick Works, Killian, S. O.
Louisville Fire Brick Works, Highland Park, Ky.
Mexico Brick & Fire Clay Co., Mexico, Mo.
Pomona Terra-Cotta Co., Pomona, N. O.
Standard Brick Co., Macon, Ga.
Stevens' Sons Co., H., Macon, Ga.
Union Mining Co., Mt. Savage, Md.
- Brick. (Paving.)**
Carlyle Paving Brick Co., Portsmouth, O.
Copeland-Ingis Shale Brick Co., Birmingham, Ala.
Dunn Wire-Out-Lag Brick Co., Connecticut, Ohio.
Southern Clay Mfg. Co., Chattanooga, Tenn.
Standard Brick Co., Macon, Ga.
- Brick and Clayworking Machinery and Supplies.**
Chase Fdry. & Mfg. Co., Columbus, O.
Farnholtz Brick Machinery Co., St. Louis, Mo.
Freese & Co., E. M., Gallion, O.
Steele & Sons, J. O., Statesville, N. O.
- Bridges. (Concrete.)**
Cunningham Construction Co., Shreveport, La.
Luten, Daniel B., Indianapolis, Ind.
Requarth Co., O. W., Charlotte, N. C.
Turner, O. A. F., Minneapolis, Minn.
- Bridges. (Rolling Lift.)**
Scherzer Rolling Lift Bridge Co., Chicago, Ill.
- Bridges. (Steel.)**
American Bridge Co. of New York, N. Y.
Belmont Iron Works, Philadelphia, Pa.
Case Crane & Engineering Co., Columbus, Ohio.
Champion Bridge Co., Wilmington, Ohio.
Chicago Bridge & Iron Works, Chicago, Ill.
Cunningham Construction Co., Shreveport, La.
East St. Louis Bridge Co., East St. Louis, Ill.
Richmond Structural Steel Co., Richmond, Va.
Scherzer Rolling Lift Bridge Co., Chicago, Ill.
Vincennes Bridge Co., Vincennes, Ind.
Virginia Bridge & Iron Co., Roanoke, Va.
- Bridge and Structural Iron Paints.**
Chattanooga Paint Co., Chattanooga, Tenn.
- Bridge Builders. (Timber.)**
Murray & Co., Inc., W. D., Norfolk, Va.
- Brimstone.**
Union Sulphur Co., New York, N. Y.
- Buckets. (Clam Shell.)**
Hayward Company, New York, N. Y.
Williams Company, G. H., Cleveland, Ohio.
- Buckets. (Orange Peel.)**
Hayward Co., The, New York, N. Y.
- Buckets. (Dredging, Excavating, Sewer, etc.)**
Hayward Co., New York, N. Y.
Monaghan Mch. Co., Chicago, Ill.
Williams Co., The G. H., Cleveland, O.
- Buckets. (Grab.)**
Hunt Co., Inc., O. W., West New Brighton, N. Y.
- Buckets. (Ore Handling.)**
Caldwell & Son Co., H. W., Chicago, Ill.
Hayward Co., New York, N. Y.
Link-Belt Co., Nicetown (Philadelphia), Pa.
Williams Co., The G. H., Cleveland, O.
- Buhr Stones.**
Starr Co., E. F., Baltimore, Md.
- Builders and Contractors.**
Interstate Const. Co., Louisville, Ky.
Stone & Webster Eng. Corp., Boston, Mass.
Turner, O. A. F., Minneapolis, Minn.
White Companies, J. G., New York, N. Y.
- Building Stone**
Atlantic Stone Co., Atlanta, Ga.
Bedford Steam Stone Works, Bedford, Ind.
- Building Supplies.**
Harris Bros. Co., Chicago, Ill.
Southern Building Material Co., Norfolk, Va.
- Burners. (Oil.) [See Fuel Oil Equipments.]**
- Bushings. (Oilless, for Loose Pulleys.)**
Metalline Co., Long Island City, N. Y.
- Cables.**
Broderick & Bascom Rope Co., St. Louis, Mo.
Roebling's Sons Co., John A., Trenton, N. J.
- Cables. (Underground.)**
Safety Insulated Wire & Cable Co., New York, N. Y.
- Cables and Wires. (Insulated.)**
American Steel & Wire Co., Chicago, Ill.
Safety Insulated Wire & Cable Co., New York, N. Y.
- Cableways. (Overhead Suspension.)**
Ambursen Co. (Tramway Department, New York, N. Y.)
Broderick & Bascom Rope Co., St. Louis, Mo.
Fiory Mfg. Co., S. Bangor, New Brighton, N. Y.
Lidgerwood Mfg. Co., New York, N. Y.
Roebling's Sons Co., John A., Trenton, N. J.
- Can and Box Making Machinery. (Tin.)**
Rites Co., E. W., Brooklyn, N. Y.
Max Amm Machine Co., Mt. Vernon, N. Y.
- Canning Machinery and Supplies.**
Robins & Co., A. K., Baltimore, Md.
Sprague Canning Machinery Co., Chicago, Ill.
- Carborundum Paper and Cloth.**
Carborundum Co., Niagara Falls, N. Y.
- Cars. (Dump, Industrial, Logging and Mine.)**
Austin Mfg. Co., Chicago, Ill.
Chase Fdry. & Mfg. Co., Columbus, O.
Curd, Geo. B., Cincinnati, Ohio.
Electric Wheel Co., Quincy, Ill.
Georgia Car & Locomotive Co., Atlanta, Ga.
Hull's Sons, D. F., Hagerstown, Md.
Lynchburg Foundry Co., Lynchburg, Va.
Phoenix Iron Works Co., Meadville, Pa.
U. S. East Iron Pipe & Fdry. Co., Burlington, N. J.
Valk & Murdoch Iron Works, Charleston, S. C.
Westbrook Elevator Co., Danville, Va.
- Cars. (Passenger and Freight.) [See Railroad Equipment and Supplies.]**
- Car Wheels, Axles and Trucks.**
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.
- Cast Iron Pipe. [See Pipe.] [Cast Iron.]**
- Castings. (Aluminum.)**
Aluminum Company of America, Pittsburgh, Pa.
- Castings. (Brass and Bronze.)**
McKenna Bros. Brass Co., Pittsburgh, Pa.
Triumph Electric Co., Cincinnati, O.
- Castings. (Gray Iron.)**
Columbian Iron Works, Chattanooga, Tenn.
Georgia Car & Locomotive Co., Atlanta, Ga.
Hammorgan Pipe & Foundry Co., Lynchburg, Va.
Hull's Sons, D. F., Hagerstown, Md.
Lynchburg Foundry Co., Lynchburg, Va.
Phoenix Iron Works Co., Meadville, Pa.
U. S. East Iron Pipe & Fdry. Co., Burlington, N. J.
Valk & Murdoch Iron Works, Charleston, S. C.
Westbrook Elevator Co., Danville, Va.
- Castings. (Malleable Iron and Steel.)**
Columbus Malleable Iron Co., Columbus, Ohio.
General Malleable Co., Warren, O.
Marion Malleable Iron Works, The, Marion, Ind.
Misouri Malleable Iron Co., East St. Louis, Ill.
- Castings. (Steel.)**
Crucible Steel Castings Co., Lansdowne, Pa.
Hoffman & Co., Inc., R. O., Baltimore, Md.
Phoenix Iron Works Co., Meadville, Pa.
Riverside Steel Casting Co., Newark, N. J.
- Ceilings (Metal.)**
Edwards Manufacturing Co., Cincinnati, O.
Kelghley Metal Cell. & Mfg. Co. S., Pittsburgh, Pa.
- Cement.**
Cincinnati Portland Cem. Corp., Kingsport, Tenn.
Dixie Portland Cement Co., Chattanooga, Tenn.
Hartman Cement Co., Wm. G., Philadelphia, Pa.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.
Kosmos Portland Cement Co., Inc., Louisville, Ky.
Lehigh Portland Cement Co., Allentown, Pa.
Southern States Portland Cem. Co., Rockmart, Ga.
Standard Portland Cement Co., Leeds, Ala.
- Cement Machinery.**
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Power & Mining Machinery Co., Oudary, Wis.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
- Chains. (Dredge, Quarry, Steam Shovel.)**
Weimer Chain & Iron Co., Lebanon, Pa.
- Chemists. (Analytical and Consulting.)**
Davis, Geo. C., Philadelphia, Pa.
Froehling & Robertson, Richmond, Va.
Hunt & Co., Robt. W., Chicago, Ill.
Little Inc., A. D., Boston, Mass.
Pittsburgh Testing Laboratory, Pittsburgh, Pa.
Wiley & Co., Baltimore, Md.
- Chloride Accumulator.**
Electric Storage Battery Co., The, Philadelphia, Pa.
- Chucks.**
Morse Twist Drill & Mch. Co., New Bedford, Mass.
- Cities and Towns. (Commercial and Industrial Opportunities.) [See Industrial, Agricultural and Commercial Opportunities.]**
- Clamps. (For Concrete Forms.)**
Sterling Wheelbarrow Co., Milwaukee, Wis.
- Clayworking Machinery. [See Brick and Clayworking Mch. and Supplies.]**
- Cleansing Compound. (Floors, Etc.)**
India Alkali Works, Boston, Mass.
- Clocks. (Watchman.)**
Watchman's Clock & Supply Co., New York, N. Y.
- Clutches. (Friction.)**
Affiliated Manufacturers Co., Milwaukee, Wis.
Medart Patent Pulley Co., St. Louis, Mo.
Moore & White Co., The, Philadelphia, Pa.
- Coal.**
Cincinnati Coal Corp., Dante, Va.
Cincinnati Fuel Co., Spartanburg, S. C.
Consolidation Coal Co., Inc., New York, N. Y.
Tennessee Coal, Iron & R. R. Co., B'gh'm, Ala.
- Coal Cutters.**
Jeffery Mfg. Co., Columbus, O.
- Coal Handling Machinery.**
Bartlett & Snow Co., O. O., Cleveland, O.
Guarantee Construction Co., New York, N. Y.
Hayward Co., New York, N. Y.
Hunt Co., O. W., Inc., West New Brighton, N. Y.
Jeffery Mfg. Co., Columbus, O.
Link-Belt Co., Nicetown (Philadelphia), Pa.
Weller Mfg. Co., Chicago, Ill.
- Coal Tar and By-Products.**
Barrett Mfg. Co., Philadelphia, Pa.
- Coal Tipples.**
American Bridge Co. of New York, N. Y.
- Coke.**
Tennessee Coal, Iron & R. R. Co., B'gh'm, Ala.
- Cold Store Doors.**
Brecht Co., The, St. Louis, Mo.
- Colleges and Schools.**
Rensselaer Polytechnic Institute, Troy, N. Y.
- Colleges. (Technical.)**
Rensselaer Polytechnic Institute, Troy, N. Y.
- Columns. (Porch, Interior, Pergola.)**
Nickerson Mfg. Co., Knoxville, Tenn.
- Commission Merchants. (Export & Import.)**
Duckett & Co., Inc., A. W., New York, N. Y.
- Concrete Construction. (Reinforced.)**
Berry-Fortune Construction Co., Easton, Ga.
Corrugated Bar Co., Buffalo, N. Y.
Cunningham Construction Co., Shreveport, La.
Foster-Creighton-Gould Co., Nashville, Tenn.
Guarantee Construction Co., New York, N. Y.
Jeffery Mfg. Co., Columbus, O.
Requarth Co., O. W., Charlotte, N. C.
Turner, O. A. F., Minneapolis, Minn.
- Concrete Curb Protector. (Steel.)**
Steel Protected Concrete Co., Philadelphia, Pa.
- Concrete Mixers. [See Mixers. (Concrete)]**
- Concrete Reinforcing Bars.**
Carnegie Steel Co., Pittsburgh, Pa.
Corrugated Bar Co., Buffalo, N. Y.
Gulf States Steel Co., Birmingham, Ala.
Hoffman & Co. R. O., Baltimore, Md.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Lackawanna Steel Co., Lackawanna, N. Y.
Laclede Steel Co., St. Louis, Mo.
Pardee Works, O., Perth Amboy, N. J.
Republic Iron & Steel Co., Youngstown, O.
Sweets Steel Co., Williamsport, Pa.
- Concrete Reinforcing Bar Couplings.**
Marion Malleable Iron Works, Marion, Ind.
- Concrete Reinforcing Wire and Wire Fabric.**
American Steel & Wire Co., Chicago, Ill.
Roebling's Sons Co., John A., Trenton, N. J.
- Condensers.**
Alberger Pump & Condenser Co., New York, N. Y.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Crescon-Morris Co., Philadelphia, Pa.
Dean Bros., Steam Pump Wks., Indianapolis, Ind.
Westinghouse Machine Co., Pittsburgh, Pa.
York Mfg. Co., York, Pa.
- Conductor Pipe.**
Edwards Mfg. Co., Cincinnati, O.
- Conduits. (Electrical.)**
National Metal Molding Co., Pittsburgh, Pa.
- Conduits. (Interior.)**
National Metal Molding Co., Pittsburgh, Pa.
- Conduits. (Steel.)**
National Metal Molding Co., Pittsburgh, Pa.
- Conduit Fittings.**
National Metal Molding Co., Pittsburgh, Pa.
- Contractors. (Concrete.)**
Berry-Fortune Construction Co., Easton, Ga.

Contractors (Drainage)

Globe Dredging Co., Savannah, Ga.
Thompson & Mosley, Greensboro, N. C.

Contractors. (Dredging)

Globe Dredging Co., Savannah, Ga.

Contractors. (Hydro-Electric Developments.)

Requarth Co., O. W., Charlotte, N. C.

Contractors. (Water Supply.)

Layne & Bowler Co., Houston, Tex.

Contractors' Machinery and Supplies. [See also Hoisting Machinery.]

American Clay Machinery Co., The, Bucyrus, Ohio.
Austin Mfg. Co., Chicago, Ill.
Bryers Mach. Co., The John F., Ravenna, O.
Cord, Geo. B., Cincinnati, O.
Flory Mfg. Co., S., Bangor, Pa.
Hyde Bros. Steel & Rail Co., Pittsburgh, Pa.
Marine Metal & Supply Co., New York, N. Y.
Milburn Co., Alex. N., Baltimore, Md.
Monaghan Mch. Co., Chicago, Ill.
National Hoisting Engine Co., Harrison, N. J.
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.
Sherwood, E. C., New York, N. Y.
Sterling Machinery Co., New York, N. Y.
Thaw & Williams, Cincinnati, O.

Conveying and Elevating Machinery.

Amburn Co., (Tramway Department), New York, N. Y.
Bartlett & Snow Co., O. C., Cleveland, O.
Caldwell & Son Co., H. W., Chicago, Ill.
Flory Mfg. Co., S., Bangor, Pa.
Guarantee Construction Co., New York, N. Y.
Hunt Co., O. W., Inc., West New Brighton, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Lidgerwood Mfg. Co., New York, N. Y.
Link-Belt Co., Nicetown, (Philadelphia) Pa.
Mathews Gravity Carrier Co., Ellwood City, Pa.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Weller Mfg. Co., Chicago, Ill.

Copperage Stock and Box Shook Machinery.

Gerlach Co., Peter, Cleveland, O.

Coppersmith.

McMillan Bros., Jacksonville, Fla.

Cordage.

Broderick & Bascom Rope Co., St. Louis, Mo.
Columbian Rope Co., Auburn, N. Y.
Waterbury Co., New York, N. Y.

Corn-Mill Machinery.

Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Starr Co., B. F., Baltimore, Md.
Wolf Co., Chambersburg, Pa.

Cotton Oil and Products.

American Cotton Oil Co., New York, N. Y.

Cotton Yarns. (Commission Merchants.)

Paulson, Linkroum & Co., New York, N. Y.

Cotton-Gin Machinery.

Carver Cotton Gin Co., East Bridgewater, Mass.
Continental Gin Co., Birmingham, Ala.
Gibbs Machinery Co., Inc., Columbia, S. C.
Murray Co., The, Atlanta, Ga.

Cotton-Mill Machinery.

Draper Co., Hopedale, Mass.
Mason Machine Works, Taunton, Mass.
Saco-Lowell Shop, Boston, Mass.
Whitinsville Spin'g Ring Co., Whitinsville, Mass.

Cotton-Mill Supplies.

American Supply Co., Providence, R. I.
Whitinsville Spin'g Ring Co., Whitinsville, Mass.

Cottonseed-Oil Machinery.

Buckeye Iron & Brass Works, Dayton, O.
Burruss Engineering Co., Atlanta, Ga.
Gardwell Machine Co., Richmond, Va.
Carver Cotton Gin Co., East Bridgewater, Mass.
Continental Gin Co., Birmingham, Ala.
French Oil Mill Machinery Co., Piqua, O.
Murray Co., The, Atlanta, Ga.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Couplings.

American Spiral Pipe Works, Chicago, Ill.
Golden's Foundry & Machine Co., Columbus, Ga.
Wood's Sons Co., T. B., Chambersburg, Pa.

Couplings. (Car.)

Welmer Chain & Iron Co., Lebanon, Pa.

Couplings. (Hose, Air, Gas, Steam and Water.)

National Tube Co., Pittsburgh, Pa.

Coverings. (Pipe, Boiler, etc.)

Johns-Manville Co., H. W., New York, N. Y.
Southern Asbestos Mfg. Co., Inc., Richmond, Va.

Cranes. (Locomotive.)

Ohio Locomotive Crane Co., Bucyrus, O.

Cranes. (Traveling, Hand, Power, Hydraulic.)

Case Crane & Engineering Co., Columbus, Ohio.
Lane Mfg. Co., Montpelier, Vt.
Spidel, J. G., Reading, Pa.

Crayons.

Georgia Talc Co., Asheville, N. C.
Lowell Crayon Co., Lowell, Mass.

Crosscutting Equipment.

Casey-Hedges Co., Chattanooga, Tenn.
Struthers-Wells Co., Warren, Pa.
Walsh & Welder Boiler Co., Chattanooga, Tenn.

Crosscutting Works.

American Crosscut Works, New Orleans, La.
Internat'l Crosscut & Cons. Co., Galveston, Tex.
National Lumber & Crosscutting Co., Texarkana, Ark.
Southern Crosscutting Co., Ltd., Sildell, La.
Southern Wood Preserving Co., Atlanta, Ga.

Crossarms and Pins.

Western Electric Co., New York, N. Y.

Crossarms. (Crosscut.)

American Crosscut Works, New Orleans, La.
Internat'l Crosscutting & Cons. Co., Galveston, Tex.
National Lumber & Crosscutting Co., Texarkana, Ark.
Southern Crosscutting Co., Ltd., Sildell, La.
Southern Wood Preserving Co., Atlanta, Ga.

Crossings. [See Railroad Frogs and Switches.]**Crosstie Machine.**

Standard Portable Saw Mill Co., New Orleans, La.

Crossties. (Crosscut.)

American Crosscut Works, New Orleans, La.
Internat'l Crosscutting & Cons. Co., Galveston, Tex.
National Lumber & Crosscutting Co., Texarkana, Ark.
Southern Crosscutting Co., Ltd., Sildell, La.
Southern Wood Preserving Co., Atlanta, Ga.

Crushed Stone. (Road Concrete and Ballast.)

American Ballast Co., Knoxville, Tenn.
Atlantic Stone Co., Atlanta, Ga.
Bald Mountain Quarry, Newsum, N. C.
Chickamauga Quarry & Construction Co., Chattanooga, Tenn.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.
Weston Brother Quarry Co., Columbia, S. C.

Crushers. (Corn and Cob.)

Grundler Pat. Crusher & Pulv. Co., St. Louis, Mo.
Jeffrey Mfg. Co., Columbus, O.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Crushers. (Rock.)

Austin Mfg. Co., Chicago, Ill.
Buchanan Co., Inc., C. G., New York, N. Y.
Chalmers & Williams, Inc., Chicago Heights, Ill.
Power & Mining Machinery Co., Goudy, Wis.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Universal Road Mch. Co., Kingston, N. Y.
Western Wheeled Scraper Co., Aurora, Ill.
Wheeling Mold & Fdry. Co., Wheeling, W. Va.

Crushing and Pulverizing Machinery.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Austin Mfg. Co., Chicago, Ill.
Bartlett & Snow Co., O. C., Cleveland, O.
Buchanan Co., Inc., C. G., New York, N. Y.
Chalmers & Williams, Inc., Chicago Heights, Ill.
Grundler Pat. Crusher & Pulv. Co., St. Louis, Mo.
Jeffrey Mfg. Co., Columbus, O.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Steedman's Foundry & Machine Works, Aurora, Ind.
Western Wheeled Scraper Co., Aurora, Ill.
Wheeling Mold & Fdry. Co., Wheeling, W. Va.

Culvert Pipe. (Cast Iron.)

American Cast Iron Pipe Co., Birmingham, Ala.
Oliver & Sons, James H., Chicago, Ill.
Donaldson Iron Co., Kansas, Pa.
Gannorgan Pipe & Foundry Co., Lynchburg, Va.
Lynchburg Foundry Co., Lynchburg, Va.
Massillon Iron & Steel Co., Massillon, Ohio.
Wood & Co., R. D., Philadelphia, Pa.

Culverts. (Corrugated Metal.)

American Sheet & Tin Plate Co., Pittsburgh, Pa.
Arco Culvert Fabricating Bureau, Cincinnati, O.
Atlas Metal Works, Dallas, Tex.
Canton Culvert and Sile Co., The, Canton, O.
Dixie Culvert & Metal Co., Atlanta, Ga.
Gallon Iron Works & Mfg. Co., The, Gallon, Ohio.
Harry Bros. Co., New Orleans, La.
Lone Star Culvert Co., Houston, Tex.
National Corrugated Culvert Mfg. Co., Warren, Pa.
Newport Culvert Co., Inc., Newport, Ky.
Salsbury Metal Culvert Co., Inc., Salsbury, N. C.
Tennessee Metal Culvert Co., Nashville, Tenn.
Virginia Metal & Culvert Co., Inc., Roanoke, Va.

Culverts. (Vitrified Pipe.)

Southern Sewer Pipe Co., Birmingham, Ala.
Stevens Sons Co., H., Macon, Ga.

Curb Protector. (Steel.)

Steel Protected Concrete Co., Philadelphia, Pa.

Cutter Grinders.

Vitrified Wheel Co., Westfield, Mass.

Cutting. (Oxy-Acetylene Process.)

Frest-O-Lite Co., Inc., The, Indianapolis, Ind.

Cuts. (Half Tone, Line, Etc.)

Alpha Photo Engraving Co., Balto. Md.

Dams. (Reinforced Concrete.)

Berry-Fortune Construction Co., Eatonton, Ga.

Derricks and Derrick Fittings.

Byers Mach. Co., The John F., Ravenna, O.
Hayward Co., The, New York, N. Y.
Monaghan Machine Co., Chicago, Ill.

Designers and Illustrators. (Printed Matter.)

Alpha Photo Engraving Co., Baltimore, Md.

Disposal Plants. (Garbage Incinerators.)

Stacy-Bates Co., Minneapolis, Minn.

Ditching Machinery.

American Steel Dredge Co., Fort Wayne, Ind.
Bey City Dredge Works, Bay City, Mich.
Fairbanks Steam Shovel Co., Marion, O.
Hayward Co., The, New York, N. Y.
Marion Steam Shovel Co., Marion, O.
Monaghan Machine Co., Chicago, Ill.
Thew Automatic Shovel Co., Lorain, Ohio.
Williams Co., The, G. H., Cleveland, O.

Doors. (Steel Rolling.)

Kinner Mfg. Co., Columbus, O.

Doors. (Tin Clad.)

Victor Mfg. Co., Newburyport, Mass.

Double Seamers.

Max Amis Machine Co., Mt. Vernon, N. Y.

Draftsmen.

Childrey Co., Richmond, Va.

Draftsmen's Supplies.

Weber & Co., F., Philadelphia, Pa.

Dredging Contractors. [See Contractors (Dredging).]**Dredge Chains.**

Welmer Chain & Iron Co., Lebanon, Pa.

Dredges. [See Excavating Machinery.]**Drills. (Pneumatic.) [See also Drills Rock and Mining.]**

Drills. (Prospecting.)

Keystone Steam Well Mach. Co., Beaver Falls, Pa.

Drills. (Rock and Mining.)

Jeffrey Mfg. Co., Columbus, O.

Sullivan Mch. Co., Chicago, Ill.

Wickes Bros., Jersey City, N. J.

Drills. (Twist.)

McKenna Bros. Brass Co., Pittsburgh, Pa.

Morse Twist Drill & Mch. Co., New Bedford, Mass.

Drive Well Points and Well Supplies.

National Tube Co., Pittsburgh, Pa.

Drop Forgings.

American Spiral Pipe Works, Chicago, Ill.

Drop Forging Machinery.

Bliss Co., E. W., Brooklyn, N. Y.

Dryers. (Sand.) [See Sand Dryers.]**Dry Docks. (Builders of)**

American Bridge Co., New York, N. Y.

Drying Machinery.

American Process Co., New York, N. Y.

Bailey-Lobby Co., The, Charleston, S. C.

Buffalo Forge Co., Buffalo, N. Y.

Coatesville, Boiler Works, Coatesville, Pa.
Cummer & Son Co., F. D., The, Cleveland, Ohio
Hershey Manufacturing Co., South Boston, Mass.
Ruggles-Coles Engineering Co., New York, N. Y.
Sturtevant Co., R. F., Hyde Park, Boston, Mass.

Dry Kilns.

Buffalo Forge Co., Buffalo, N. Y.

Moore Dry Kiln Co., L., Jacksonville, Fla.

Dry Kiln Equipment.

Moore Dry Kiln Co., L., Jacksonville, Fla.

Dumbwaiters. (Hand Power.)

McKenna Bros. Brass Co., Pittsburgh, Pa.

Spidel, J. G., Reading, Pa.

Dump Wagons and Wagon Boxes.

Troy Wagon Works Co., Troy, O.

Dust-Collecting Systems.

Buffalo Forge Co., Buffalo, N. Y.

King Co., F. E., Norfolk, Va.

South Atlantic Blow Pipe & Sheet Metal Co., Savannah, Ga.

Dynamite. (Industrial and Agricultural.)

Du Pont De Nemours Powder Co., E. I.

Keystone Nat'l Powder Co., Emporium, Pa.

Dynamos and Motors.

Assets Purchasing Co., Wheeling, W. Va.

General Electric Co., Schenectady, N. Y.

Pan Electric Mfg. Co., St. Louis, Mo.

Terry Steam Turbine Co., Hartford, Conn.

Triumph Electric Co., Cincinnati, O.

Western Electric Co., New York, N. Y.

Eaves. (Trough.)

Edwards Mfg. Co., Cincinnati, O.

Ejectors. (Sewage.)

Lunkenheimer Co., The, Cincinnati, O.

Pacific Flush Tank Co., New York, N. Y.

Electric Machinery. (Dynamos, Generators, Motors, etc.)

Allis-Chalmers Manufacturing Co., Milwaukee, Wis.

American Elevator & Mch. Co., Louisville, Ky.

Crocker-Wheeler Co., Amper, N. J.

Engberg Electric & Mechanical Works, St. Joseph, Mich.

Fairbanks-Morse & Co., Atlanta, Ga.

General Electric Co., Schenectady, N. Y.

Lee Electric Co., Baltimore, Md.

Moore & Co., Edgar M., Pittsburgh, Pa.

Pan Electric Mfg. Co., St. Louis, Mo.

Piedmont Electric Co., Asheville, N. C.

Schneider Co., R., Philadelphia, Pa.

Schroeder Electric Co., Evansville, Ind.

Sturtevant Co., R. F., Hyde Park, Boston, Mass.

Triumph Electric Co., Cincinnati, O.

Wilson Mch. Co., Harold R., St. Louis, Mo.

Electrical Contractors, Instruments and Supplies.

Crocker-Wheeler Co., Amper, N. J.

Economy Fuse & Mfg. Co., Chicago, Ill.

General Electric Co., Schenectady, N. Y.

Hill & Co., Walter E., Baltimore, Md.

Lee Electric Co., Baltimore, Md.

Lery-Morton Co., Columbus, Ga.

Piedmont Electric Co., Asheville, N. C.

Walker Electrical & Plumbing Co., Rome, Ga.

Electric Light Plants. (Portable.)

Schroeder Electric Co., Evansville, Ind.

Electro-Magnet. [See Magnet Electro.]**Elevating, Conveying and Power Transmission Machinery. [See also Conveying and Elevating Machinery and Power Transmission Mch.]****Elevator****ELECTRIC.**

American Electric Machine & Elevator Co., St. Louis, Mo.

Atlas Machine Co., Louisville, Ky.

Current Elevator Co., James H., Cincinnati, Ohio.

K. O. Elevator Mfg. Co., Kansas City, Mo.

Miller Elevator Mfg. Co., Wm. A., St. Louis, Mo.

Moffatt Machinery Mfg. Co., Charlotte, N. C.

Ohio Elevator & Machine Co., Columbus, Ohio.

Otis Elevator Co., New York, N. Y.

Spidel, J. G., Reading, Pa.

Warshaw Elevator Co., Baltimore, Md.

Westbrook Elevator Co., Danville, Va.

HAND AND BELT POWER.

American Electric Machine & Elevator Co., St. Louis, Mo.

Atlas Machine Co., Louisville, Ky.

Current Elevator Co., James H., Cincinnati, O.

K. O. Elevator Mfg. Co., Kansas City, Mo.

Miller Elevator Mfg. Co., Wm. A., St. Louis, Mo.

Moffatt Machinery Mfg. Co., Charlotte, N. C.

Ohio Elevator & Machine Co., Columbus, O.

Otis Elevator Co., New York, N. Y.

STEAM HYDRAULIC.

Ridgway & Son Co., The, Coatesville, Pa.

Elevators. (Automatic.)

Mathews Gravity Carrier Co., Ellwood City, Pa.

Elevators. (Portable for Warehouses, etc.)

Economy Engineering Co., Chicago, Ill.

Elevator Belts.

Upon Nut Co., The, Cleveland, O.

Elevator Buckets.

Caldwell & Son Co., H. W., Chicago, Ill.

Hendrick Mfg. Co., Carbondale, Pa.

Jeffrey Mfg. Co., Columbus, O.

Link-Belt Co., Nicetown (Philadelphia), Pa.

Elevator Enclosures and Cabs.

Bolles Iron & Wire Works, J. E., Detroit, Mich.

Cincinnati Mfg. Co., Cincinnati, O.

Dow Wire & Iron Works, Louisville, Ky.

Dufur & Co., Baltimore, Md.

Dufur, Baggett & Co., Baltimore, Md.

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Lide, Martin J., Birmingham, Ala.
McLundie, A. S., Chattanooga, Tenn.
Stevens, Harry, Washington, D. C.
Tucker & Laxton, Charlotte, N. C.

Mining.

Brown & Clarkson, Washington, D. C.
Grimsley, G. P., Martinsburg, W. Va.
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Jones, E. M., Chattanooga, Tenn.
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Municipal.

Anderson & Christie, Charlotte, N. C.
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Anderson & Christie, Charlotte, N. C.
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Shand Engineering Co., Columbia, S. C.
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Public Service Properties.

Day & Zimmerman, Philadelphia, Pa.
Ferre Co., The, N. Y., Memphis, Tenn.
Ford, Bacon & Davis, New York, N. Y.
Gillman, Harry L., Boston, Mass.
Graves Engineering Co., Inc., New York, N. Y.
Scotfield Engineering Co., Philadelphia, Pa.
Stone & Webster Engr. Corp., Boston, Mass.
Weller, Francis R., Washington, D. C.
White Companies, J. G., New York, N. Y.

Reinforced Concrete. (Bridges, Buildings, etc.)

Cunningham Construction Co., Shreveport, La.
Foster-Oreighon-Gould Co., Nashville, Tenn.
Guarantee Construction Co., New York, N. Y.
Interstate Const. Co., Louisville, Ky.
Luten, Daniel B., Indianapolis, Ind.
Martin Co., A. J., Portsmouth, Ohio.
Potter, Alexander, New York, N. Y.
Requarth Co., C. W., Charlotte, N. C.
Savannah Eng. & Construction Co., Savannah, Ga.
Spiker, William C., Atlanta, Ga.
Tucker & Laxton, Charlotte, N. C.
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River and Harbor.

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Anderson & Christie, Charlotte, N. C.
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Steel Work and Rolling Mills.

Smythe Co., The S. R., Pittsburgh, Pa.

Structural Steel.

Foster-Oreighon-Gould Co., Nashville, Tenn.
Shearer, O. E., Memphis, Tenn.
Spiker, William C., Atlanta, Ga.
Renshaw & Breese, Huntington, W. Va.

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Gallin, W. R., Hopkinsville, Ky.

Engines.

Compressed Air.

Dake Engine Co., Grand Haven, Mich.

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Affiliated Manufacturers Co., Milwaukee, Wis.
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Gibbs Machinery Co., Inc., Columbia, S. C.
Mietz, A., New York, N. Y.
Portsmouth Engine Co., Portsmouth, O.
Power Mfg. Co., Lima, Ohio.
Southern Engine & Boiler Works, Jackson, Tenn.
Van Dusen, Roy Co., The, Columbus, O.
Westinghouse Machine Co., The, Pittsburgh, Pa.

Oil.

Bolinders Co., New York, N. Y.
Chicago Pneumatic Tool Co., Chicago, Ill.
De La Vergne Machine Co., New York, N. Y.
Fairbanks-Morse & Co., Atlanta, Ga.
Wells, A., New York, N. Y.
Power Mfg. Co., Lima, Ohio.
Snow Steam Pump Works, The, New York, N. Y.

Steam.

Allie-Chalmers Manufacturing Co., Milwaukee, Wis.
Ball Engine Co., Erie, Pa.
Buffalo Forge Co., Buffalo, N. Y.
Cameron & Barkley Co., Charleston, S. C.
Cooper Co., O. & G., Mt. Vernon, Ohio.
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Laffel & Co., James, Springfield, O.
Lombard Iron Works, Augusta, Ga.
Mecklenburg Iron Works, Charlotte, N. C.
Murray Iron Works Co., Burlington, Ia.
Phoenix Iron Works Co., Mesquite, Pa.
Schubert Iron Works, Macon, Ga.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Vilter Mfg. Co., Milwaukee, Wis.
Westinghouse Machine Co., Pittsburgh, Pa.

Hoists.

Young & Selden Co., Baltimore, Md.

Excavating Machinery.

American Clay Machinery Co., The, Bucyrus, Ohio.
American Steel Dredge Co., Fort Wayne, Ind.
Bay City Dredge Works, Bay City, Mich.
Byers Mach. Co., The, John F., Ravenna, O.
Fairbanks Steam Shovel Co., Marion, O.
Hayward Co., New York, N. Y.
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Keystone Drill & Equipment Co., Beaver Falls, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
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Morris Machine Works, Baldwinville, N. Y.
National Hoisting Engine Co., Harrison, N. J.
The Automatic Shovel Co., Lorain, Ohio.
Williams Co., The G. H., Cleveland, O.

Excavators. (Trench.)

Bay City Dredge Works, Bay City, Mich.
Fairbanks Steam Shovel Co., Marion, O.
Hayward Co., The, New York, N. Y.
Monaghan Machine Co., Chicago, Ill.

Excelsior Machinery.

Kline, Lewis T., Alpena, Mich.

Exhaust Heads.

American Spiral Pipe Works, Chicago, Ill.

Exhibits. (Machinery Builders' Equipment and Supplies.)

Builders' Exchange, Baltimore, Md.

Expansion Joints.

Badger & Sons Co., E. B., Boston, Mass.

Expansion Joints. (Street and Road.)

Philip Carey Co., The, Cincinnati, Ohio.

Expanded Metal. (See Lath.)

Explosives.

Du Pont De Nemours Powder Co., E. I., Wilmington, Del.
Keystone Nat'l. Powder Co., Emporium, Pa.

Export Agents. (South America.)

Lutz, Friedr. W., Richmond, Va.

Factory Sites. (Town and Railroad.) [See Industrial, Agricultural and Commercial Opportunities.]

Fans. (Electric.)

General Electric Co., Schenectady, N. Y.

Fans. (Ventilating.) [See Blowers, Exhaust Fans.]

Fastener Driving Machine. (Corrugated Joint.)

Saranac Machine Co., Benton Harbor, Mich.

Feed-Water Heaters and Purifiers.

American Water Softener Co., Philadelphia, Pa.
Blake & Knowles Steam Pump Works, East Cambridge, Mass.
Murray Iron Works Co., Burlington, Ia.
National Pipe Bending Co., New Haven, Conn.
Scaife & Sons Co., Wm. B., Pittsburgh, Pa.
Stewart Heater Co., Buffalo, N. Y.

Feed-Water Heater and Purifier and Oil Separator Combined.

Blake & Knowles Steam Pump Works, East Cambridge, Mass.

Felt. (Building, Sheathing.)

Barrett Mfg. Co., Philadelphia, Pa.

Fencing. (Woven Wire Field.)

American Steel & Wire Co., Chicago, Ill.
Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala.

Fencing, Entrance Gates. (Iron, Steel, Wire.)

American Steel & Wire Co., Chicago, Ill.
Bolles Iron & Wire Wks., J. E., Detroit, Mich.
Cyclone Fence Co., Waukegan, Ill.
Dow Wire & Iron Works, Louisville, Ky.
Dufur & Co., Baltimore, Md.
Eureka Supply Co., Chattanooga, Tenn.
New Jersey Wire Cloth Co., Trenton, N. J.
Ohio Elevator & Mach. Co., The, Columbus, O.

Fertilizer Machy. [See also Phosphate Machy.]

Stedman's Foundry & Machine Works, Aurora, Ind.
Valk & Murdoch Iron Works, Charleston, S. C.

Fires.

Barnett Co., G. & H., Philadelphia, Pa.

Nicholson File Co., Providence, R. I.

Filters. (Water, for Domestic and Industrial Purposes.)

American Water Softener Co., Philadelphia, Pa.
International Filter Co., Chicago, Ill.
New York Con. Jewell Fil. Co., New York, N. Y.

Fire Clay. [See Brick, Fire.]

Fire Door Fixtures.

Richmond Safety Gate Co., Richmond, Ind.

Victor Mfg. Co., Newburyport, Mass.

Fire Extinguishers.

Badger & Sons Co., E. B., Boston, Mass.

Fire Escapes.

Bolles Iron & Wire Works, J. E., Detroit, Mich.
Cheapeake Iron Works, Baltimore, Md.
Eureka Supply Co., Chattanooga, Tenn.

Fire Hose.

Eureka Fire Hose Mfg. Co., New York, N. Y.

Fire Places. (Brick and Tile.)

Hood Brick Co., B. Midlin, Atlanta, Ga.

Fireproof Building Construction. [See Concrete Construction.]

Fireproof Building Material.

Bannon Pipe Co., F., Louisville, Ky.

Johns-Manville Co., H. W., New York, N. Y.

Fireproof Doors and Shutters.

Kinnear Mfg. Co., Columbus, O.
Richmond Safety Gate Co., Richmond, Ind.
Victor Mfg. Co., Newburyport, Pa.
Wagner's Sons Co., J. F., Louisville, Ky.

Fireproof Windows. [See Window Frames and Sashes (Fireproof).]

Fittings. (Wire Rope.)

Waterbury Co., New York, N. Y.

Fireproofing. (Brick and Tile.)

Hood Brick Co., B. Midlin, Atlanta, Ga.

Fixtures. (Electric Lighting.)

Hill & Co., Walter E., Baltimore, Md.

Flanges. (Iron and Steel.)

American Cast Iron Pipe Co., Birmingham, Ala.
American Pipe & Construction Co., Phila., Pa.
American Spiral Pipe Works, Chicago, Ill.
Dart Mfg. Co., E. M., Providence, R. I.
Gilmorgan Pipe & Foundry Co., Lynchburg, Va.
National Tube Co., Pittsburgh, Pa.
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.
Wood & Co., E. D., Philadelphia, Pa.

Flare Lamps.

Frost-O-Lite Co., Inc., The, Indianapolis, Ind.

Flexible Joints.

Moran Flex. Steam Joint Co., Inc., Louisville, Ky.

Flooring. (Crescoted Block.)

Republic Crescoting Co., Indianapolis, Ind.

Flooring. (Hardwood, Maple, Oak.)

Whiting, William S., Asheville, N. C.

Flour and Grist Mill Machinery and Supplies.

Caldwell & Sons Co., H. W., Chicago, Ill.
Salem Foundry & Machine Works, Salem, Va.
Starr Co., B. F., Baltimore, Md.
Wolf Co., Chambersburg, Pa.

Flue Lining.

Owensboro Sewer Pipe Co., Owensboro, Ky.
Southern Sewer Pipe Co., Birmingham, Ala.

Forges.

Buffalo Forge Co., Buffalo, N. Y.

Forgings.

Weimer Chain & Iron Co., Lebanon, Pa.

Foundations. (Waterproof.)

Requarth Co., C. W., Charlotte, N. C.

Foundry Equipment and Supplies.

Hill-Branner Fdry. Supply Co., Cincinnati, O.
Newport Sand Bank Co., Inc., Newport, Ky.

Foundry Facings. (Talc and Soapstone.)

Georgia Talc Co., Asheville, N. C.
Hill-Branner Fdry. Supply Co., Cincinnati, O.

Foundry and Machine Shops.

Gilmorgan Pipe & Foundry Co., Lynchburg, Va.
Golden Foundry & Machine Wks., Columbus, Ga.
Granger & Co., Louisville, Ky.
Lombard Iron Works, Augusta, Ga.
Titus, E. E., Petersburg, Va.
Valk & Murdoch Iron Works, Charleston, S. C.

Frogs. [See Railroad Frogs and Switches.]

Fuel Economizer.

Green Fuel Economiser Co., Matteawan, N. Y.

Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Fuel Oil.

Gulf Refining Co., Pittsburgh, Pa.

U. S. Asphalt Refining Co., New York, N. Y.

Furnaces. (For Industrial Purposes.)

Smythe Co., The S. R., Pittsburgh, Pa.

Fuses. (Electrical.)

Economy Fuse & Mfg. Co., Chicago, Ill.

Fuse Shells. (Renewable.)

Economy Fuse & Mfg. Co., Chicago, Ill.

Fuses, Bases and Fittings.

Johns-Manville Co., H. W., New York, N. Y.

Galvanized Steel and Iron.

American Sheet & Tin Plate Co., Pittsburgh, Pa.
La Belle Iron Works, Steubenville, O.
McAlia, Inc., Harold, Philadelphia, Pa.
Whitaker-Glessner Co., Portsmouth Plant, Portsmouth, N. H.

Garage and House. (Portable.)

Dixie Culvert & Metal Co., Atlanta, Ga.

Steel Products Co., The, Savannah, Ga.

Garbage Disposal Plants.

Stacy-Bates Co., Minneapolis, Minn.

Gas Blowers. (Turbine.)

Terry Steam Turbine Co., Hartford, Conn.

Gas Engines. [See Engines, Gas.]

Gas Machines.

Kemp Mfg. Co., C. M., Baltimore, Md.

Milburn Co., Alex. N., Baltimore, Md.

Gas Plants.

Gas Engineering Co., Trenton, N. J.
Power & Mining Machinery Co., Undaby, Wis.
Western Gas Construction Co., Ft. Wayne, Ind.

Gas Producers.

Smythe Co., The S. R., Pittsburgh, Pa.
Westinghouse Machine Co., Pittsburgh, Pa.
Wood & Co., R. D., Philadelphia, Pa.

Gasoline and Kerosene.

Gulf Refining Co., Pittsburgh, Pa.

Gas and Steam Fitters' Tools.

Saunders' Sons, D., Yorkers, N. Y.

Gears.

Caldwell & Sons Co., H. W., Chicago, Ill.
Oreoson-Morris Co., Philadelphia, Pa.
James Mfg. Co., D. O., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.

Generating Sets.

Engberg Electric & Mechanical Works, St. Joseph, Mo.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Triumph Electric Co., Cincinnati, O.

Geologists.

Davis, Geo. C., Phila., Pa.
Froehling & Robertson, Richmond, Va.
Grimsley, G. P., Martinsburg, W. Va.

Glass. (Plate, etc.)

Binswanger & Co., Memphis, Tenn.

Governors. (Steam Engine.)

Pickering Governor Co., Portland, Conn.

Grain Elevator Supplies.

Caldwell & Sons Co., H. W., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Co., Nictown (Philadelphia), Pa.

Granite.

Southern Marble & Granite Co., Spartanburg, S. C.

Graphites.

Dixon Crucible Co., Joseph, Jersey City, N. J.

Grates and Grate Bars.

Huber Grate Bar & Stoking Co., Baltimore, Md.
Thomas Grate Bar Co., Birmingham, Ala.

Gravel.

Arundel Sand & Gravel Co., Baltimore, Md.

Gravel. (Roofing and Road)

American Ballast Co., Knoxville, Tenn.

Gravity Spiral Chutes.

Mathews Gravity Carrier Co., Ellwood City, Pa.

Greases.

Albany Lubricating Co., New York, N. Y.

Grease Cups.

Albany Lubricating Co., New York, N. Y.

Lunkenheimer Co., The, Cincinnati, O.

Greases and Lubricating Compounds.

Albany Lubricating Co., New York, N. Y.

Galena Signal Oil Co., Franklin, Pa.

Robinson & Son Co., Wm. C., Baltimore, Md.

Grinders. (Gypsum, Limestone, etc.)

Stedman's Foundry & Machine Wks., Aurora, Ind.

Grinding Wheels.

Carborundum Co., Niagara Falls, N. Y.

Vitrified Wheel Co., Westfield, Mass.

Groovers.

Insulated Wires and Cables.

Safety Insulated Wire & Cable Co., New York, N. Y.

Insulating Materials.

General Electric Co., Schenectady, N. Y.
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Hartford Steam Boiler Inspector & Insurance Co., Hartford, Conn.

Investment Securities.

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Provident Savings Bank & Trust Co., Cincinnati, Ohio.

Iron.

Allegheny Steel Co., Pittsburgh, Pa.
La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Youngstown, O.
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Union Drawn Steel Co., Beaver Falls, Pa.
Wood Iron & Steel Co., Alan, Philadelphia, Pa.

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Badger & Sons Co., E. R., Boston, Mass.

Lace Leather.

Graton & Knight Mfg. Co., Worcester, Mass.

Lamps. (Arc and Incandescent.)

Boston-Economy Lamp Division, Danvers, Mass.
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Lee Electric Co., Baltimore, Md.
Piedmont Electric Co., Asheville, N. C.

Lamps. (Carbon and Tungsten.)

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Bolles Iron & Wire Works, J. E., Detroit, Mich.
Dufur & Co., Baltimore, Md.
Dufur, Baggett & Co., Baltimore, Md.

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International Filter Co., Chicago, Ill.

Lithographers, Engravers.

Young & Selden Co., Baltimore, Md.

Lockers (Steel)

Bernstein Mfg. Co., Phila., Pa.
Keighley Metal Ceiling Mfg. Co., S., Pittsburgh, Pa.
Merritt & Co., Camden, N. J.
Van Hurlingen, J. M., Atlanta, Ga.

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Baldwin Locomotive Wks., The, Philadelphia, Pa.
Climax Mfg. Co., Cory, Pa.
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Davenport Locomotive Works, Davenport, Ia.
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Baldwin Locomotive Wks., The, Philadelphia, Pa.
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Looms and Weaving Machinery.

Draper Co., Hopedale, Mass.
Mason Machine Works, Taunton, Mass.
Saco-Lowell Shops, Boston, Mass.

Loom Supply.

American Supply Co., Providence, R. I.

Lubricants.

Albany Lubricating Co., New York, N. Y.
Ohio Elevator Co., New York, N. Y.

Lubricants. (Graphite.)

Dixon Crucible Co., Joseph, Jersey City, N. J.

Lumber.

Industrial Lumber Co., Elizabeth, La.

Lumber. (Creosote.)

American Creosote Works, New Orleans, La.

Lumber. (Heavy Construction, Pitch Pine, etc.)

Industrial Lumber Co., Elizabeth, La.
National Lumber & Creosote Co., Texarkana, Ark.

Lumber Buggies.

Soule Steam Feed Works -Meridian, Miss.

Lumber Stackers.

Soule Steam Feed Works, Meridian, Miss.

Machinery. (Special.)

Bliss Co., E. W., Brooklyn, N. Y.
Kline, Lewis T., Alpena, Mich.
Universal Machine Co., Baltimore, Md.

Machinery and Supplies. (New and Second-Hand Bargains.)

Assets Purchasing Co., Wheeling, W. Va.
Baker & James Boiler & Mch. Co., Joplin, Mo.
Birtwell, W. L., Phila., Pa.
Boston Iron & Metal Co., Balto., Md.
Cleveland Belting & Machinery Co., Cleveland, O.
Dusets & Son, New York, N. Y.
Harris Bros. Co., Chicago, Ill.
Hyde Bros. Steel & Rail Co., Pittsburgh, Pa.
Jeffrey-Greaser Machinery Co., Philadelphia, Pa.
Lehman, Charles T., Birmingham, Ala.
Lodge & Shipley Mach. Tool Co., Cincinnati, O.
Marine Metal & Supply Co., New York, N. Y.
Moore & Co., Edgar M., Pittsburgh, Pa.

New River Co., Macdonald, W. Va.
Nussbaum & Co., V. M., Fort Wayne, Ind.
Pannmuller Engineering Co., Chicago, Ill.
Power Equipment Co., New York, N. Y.
Prentiss Tool & Supply Co., New York, N. Y.
Randle Machinery Co., Cincinnati, O.
Read Co., Howard W., Philadelphia, Pa.
Sachsenmaier & Co., George, Philadelphia, Pa.
Samuel, Frank, Philadelphia, Pa.
Seyfert's Sons, Inc., L. E., Philadelphia, Pa.
Southern Mch. Exchange, Jacksonville, Fla.
South Side Fdry. & Mch. Co., Charleston, W. Va.
Stearns, John C., Kansas City, Mo.
Stewart, Paul, Cincinnati, O.
Tampa Machinery Exchange, Tampa, Fla.
Toomey, Frank, Inc., Philadelphia, Pa.
Wilson Machy. Co., Harold, R., St. Louis, Mo.
Winterer Co., Herman L., Philadelphia, Pa.

Machine Tools.

Garrett Attachment Co., Nashville, Tenn.
Greaves, Klusman Tool Co., The, Cincinnati, O.

Machinists. (Engineers.)

Universal Machine Co., Baltimore, Md.

Magnesia Materials.

Johns-Manville Co., H. W., New York, N. Y.

Magnetic Separators.

Buchanan & Co., Inc. O. G., New York, N. Y.

Mail Chutes.

Outler Mail Chute Co., Rochester, N. Y.

Mechanical Draft.

Buffalo Forge Co., Buffalo, N. Y.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Metal Ceilings. [See Ceilings, Metal.]

Metaline Co., Long Island City, N. Y.

Metal. (For Tanks, Culverts, Roofing, etc.)

Whitaker-Glessner Co., Portsmouth Plant, Portsmouth, Ohio.

Metal Culverts. [See Culverts.] (Corrugated Metal.)

Metal Shingles. [See Shingles.] (Metal.)

Metal Window Frames and Sash. [See Window Frames and Sash.] (Fireproof.)

Metal Work. [See Sheet Metal Work.]

Metal-Working Machinery. (Sheet.)

Bliss Co., E. W., Brooklyn, N. Y.

Meters. (Water.)

Alberger Pump & Condenser Co., New York, N. Y.

Meter Boxes, Couplings, Gauges. (Water.)

Clark Co., H. W., Mattoon, Ill.

Micrometers, Callipers, etc.

Starrett Co., L. S., Athol, Mass.

Milk Filters. (Liquor, Milk, etc.)

International Filter Co., Chicago, Ill.

Mill Engineers and Architects.

O'Brian, W. C., Memphis, Tenn.
Sirrins, J. E., Greenville, S. C.

Mill Supplies.

Bailey-Lobby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Gainesville Iron Works, Gainesville, Ga.
Lombard Iron Works, Augusta, Ga.
Lunkenheimer Co., The, Cincinnati, O.
Mecklenburg Iron Works, Charlotte, N. C.
Salem Foundry & Machine Wks., Salem, Va.
Starr Co., B. F., Baltimore, Md.
Wolf Co., Chambersburg, Pa.

Mining Machinery. (Gold, Copper, Plate, etc.)

Bartlett & Snow Co., O. O., Cleveland, O.
Jeffrey Mfg. Co., Columbus, O.
McLannan-Stone Mach. Co., Hollidaysburg, Pa.
Mecklenburg Iron Works, Charlotte, N. C.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Mixers. (Concrete.)

Milwaukee Concrete Mixer Co., Milwaukee, Wis.
Van Duzens, R. O., The, Columbus, O.

Mixing Machinery.

Dunning, W. D., Syracuse, N. Y.

Mortar Colors.

Chattanooga Paint Co., Chattanooga, Tenn.

Motor Trucks. (Gasoline.)

White Co., The, Cleveland, O.

Motor Trucks. (Second Hand.)

Mar-Dei Mobile Co., Baltimore, Md.

Municipal Castings.

Clarksville Fdry. & Mach. Works., Clarksville Tenn.

Music Wire.

American Steel & Wire Co., Chicago, Ill.
Waterbury Co., The, New York, N. Y.

Nails. (Cut.)

La Belle Iron Works, Steubenville, O.

Nails and Spikes.

La Belle Iron Works, Steubenville, Ohio.
Republic Iron & Steel Co., Youngstown, O.
Youngstown Sheet & Tube Co., Youngstown, O.

Nuts. [See Bolts, Nuts, Rivets, etc.]

Office Furniture (Steel)

Merritt & Co., Camden, N. J.

Oil. (Creosote.)

Barrett Mfg. Co., Philadelphia, Pa.

Oils. (Lubricating, Etc.)

Albany Lubricating Co., New York, N. Y.
Galena Signal Oil Co., Franklin, Pa.
Gulf Refining Co., Pittsburgh, Pa.
Robinson & Son Co., Wm. O., Baltimore, Md.

Oil Cans.

Wall Mfg. Supply Co., F., Allegheny, Pa.

Oil Engines. [See Engines (Oil).]

Oil Separators.

Stewart Heater Co., Buffalo, N. Y.

Oil Well Machinery.

Keystone Steam Well Mach. Co., Beaver Falls, Pa.
Williams Bros., Itasca, N. Y.

Ore Handling Machinery. [See Coal Handling Machinery.]

Ornamental Iron Works.

Bolles Iron & Wire Wks., J. E., Detroit, Mich.
Chesapeake Iron Works, Baltimore, Md.
Cincinnati Mfg. Co., Cincinnati, O.
Dow Wire & Iron Works, Louisville, Ky.
Ohio Elevator & Mach. Co., The, Columbus, O.
Scribner & Sons Co., The, Cincinnati, O.
Snead Architectural Iron Works, Louisville, Ky.

Oxygen.

International Oxygen Co., New York, N. Y.

Oxygen Generators.

International Oxygen Co., New York, N. Y.

Oxy-Acetylene Welding and Cutting Outfit and Supplies.

International Oxygen Co., New York, N. Y.
Milburn Co., Alex. N., Baltimore, Md.

Packing. (Asbestos, Metallic, Rubber, Leather, etc.)

Graton & Knight Mfg. Co., Worcester, Mass.
Jenkins Bros., New York, N. Y.
Johns-Manville Co., H. W., New York, N. Y.
Power Specialty Co., New York, N. Y.
United Lead Co., New York, N. Y.

Packing. (Lead Wool.)

United Lead Co., New York, N. Y.

Paint. (Cement Floors, Masonry, Stucco, etc.)

Cheesman & Elliott, New York, N. Y.

Paint. (Metal Surfaces.)

Cheesman & Elliott, New York, N. Y.
Dixon Crucible Co., Joseph, Jersey City, N. J.

Paint. (Preservative.)

Reeves Co., The, New Orleans, La.

Paint. (Roofing, Building, etc.)

Cameron & Barkley Co., Charleston, S. C.
Chattanooga Paint Co., Chattanooga, Tenn.
Cheesman & Elliott, New York, N. Y.

Paper. (Roofing, Building, Sheeting, etc.)

Barrett Mfg. Co., Philadelphia, Pa.
Cameron & Barkley Co., Charleston, S. C.

Partitions. (Wooden Rolling.)

Van Hurlingen, J. M., Atlanta, Ga.

Patents and Inventions.

Russell Machine Co., F. K., Dallas, Tex.

Patent Attorneys.

Brown, Eugene C., Washington, D. C.
Chundie & Chaudie, Washington, D. C.
Coleman, Watson E., Washington, D. C.
Duffie & Co., John S., Washington, D. C.
Evans & Co., Victor J., Washington, D. C.
Fitzgerald & Co., W. T., Washington, D. C.
Hodges, Vernon E., Washington, D. C.
Jenner, Herbert, Washington, D. C.
Lacey, R. S. & A. B., Washington, D. C.
McLundie, A. S., Chattanooga, Tenn.
Parker, C. L., Washington, D. C.

Paving Filler.

Barrett Mfg. Co., Philadelphia, Pa.

Paving Blocks. (Creosoted.)

International Creosoting & Construction Co., Galveston, Tex.
National Lumber & Creosoting Co., Texarkana, Ark.
Republic Creosoting Co., Indianapolis, Ind.
Southern Creosoting Co., Ltd., Slidell, La.
Southern Wood Preserving Co., Atlanta, Ga.
U. S. Wood Preserving Co., New York, N. Y.
Wyckoff Pipe & Creosoting Co., Inc., The, New York, N. Y.

Paving Blocks. (Granite.)

Southern Marble & Granite Co., The, Spartanburg, S. C.

Paving Brick.

Carlyle Paving Brick Co., Portsmouth, O.
Copeland-Ingalls Shale Brick Co., Birm'gh'm, Ala.
Dunn Wire-Cut-Log Brick Co., Cincinnati, Ohio.
Southern Clay Mfg. Co., Chattanooga, Tenn.
Standard Brick Co., Macon, Ga.

Perforated Metal.

Caldwell & Son, H. W., Chicago, Ill.
Erdie Perforating Co., Rochester, N. Y.
Hendricks Mfg. Co., The, Carbondale, Pa.
Manhattan Perforated Metal Co., New York, N. Y.
Mundt & Sons, Charies, Jersey City, N. J.

Petroleum Refiners.

Gulf Refining Co., Pittsburgh, Pa.
Standard Oil Co., Inc., Newark, N. J.

Phosphate Machinery.

American Process Co., New York, N. Y.
Bailey-Lobby Co., The, Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Link Belt Co., Nicetown (Philadelphia), Pa.
McLannan-Stone Mach. Co., Hollidaysburg, Pa.
Raymond Impact Pulv. Co., Chicago, Ill.
Valk & Murdoch Iron Works, Charleston, S. C.

Pig Iron.

La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Youngstown, O.
Tennessee Coal, Iron & R. R. Co., Birm'gh'm, Ala.

Pile Drivers.

Volcan Iron Works, Chicago, Ill.

Pile Driving and Wharf Building.

Murray & Co., Inc., W. D., Norfolk, Va.

Piling. (Creosoted.)

American Creosote Works, New Orleans, La.
Intern'l Creosoting & Const. Co., Galveston, Tex.
Southern Creosoting Co., Ltd., Slidell, La.

Pillow Blocks.

Golden's Foundry & Machine Co., Columbus, Ga.
Medart Patent Pulley Co., St. Louis, Mo.

Pipes.

Allegheny Steel Co., Pittsburgh, Pa.
La Belle Iron Works, Steubenville, Ohio.
National Tube Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.

Pipes. (Cast Iron.)

American Cast Iron Pipe Co., Birmingham, Ala.
American Pipe & Construction Co., Phila., Pa.
Cler & Sons, James B., Chicago, Ill.
Donaldson Iron Co., Emaus, Pa.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Greenspon's Sons Iron & Steel Co., Jos., St. Louis, Mo.
Lynchburg Foundry Co., Lynchburg, Va.
Massillon Iron & Steel Co., Massillon, O.
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.
Warren Fdry. & Mach. Co., New York, N. Y.
Wood & Co., R. D., Philadelphia, Pa.

Pipes. (Coil.)

Frick Co., The, Waynesboro, Pa.
National Pipe Bending Co., New Haven, Conn.
York Mfg. Co., York, Pa.

Pipes. (Corrugated Unrivet.) [See Unrivet (Corrugated Metal).]

Pipe (Lead)

United Lead Co., New York, N. Y.

Pipe. (Riveted.)

Keeler Co., E., Williamsport, Pa.

Pipe. (Second Hand.)

Eagle Pipe Supply Co., New York, N. Y.
Marine Metal & Supply Co., New York, N. Y.

Pipe. (Spiral Riveted.)

American Spiral Pipe Works, Chicago, Ill.

Pipe. (Spiral Steel.)

Standard Spiral Pipe Works, Chicago, Ill.

Pipe. (Sewer, Vitrified.) [See Sewer Pipe, Vitrified.]

Pipe. (Wood.)

Wyckoff & Son Co., A., Elmira, N. Y.

Pipe. (Wrought Iron.)

CLASSIFIED INDEX OF ADVERTISEMENTS.

Pulverizers.

Austin Mfg. Co., Chicago, Ill.
Grundler Pat. Crusher & Pulv. Co., St. Louis, Missouri.
Jeffrey Mfg. Co., Columbus, O.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Raymond Bros., Impact Pulv. Co., Chicago, Ill.
Stedman's Foodry & Machine Wks., Aurora, Ind.
Western Wheel Scraper Co., Aurora, Ill.

Pumping Machinery.

Affiliated Manufacturers Co., Milwaukee, Wis.
Alberger Pump & Condenser Co., New York, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Cook, A. D., Lawrenceburg, Ind.
Deane Steam Pump Co., Holyoke, Mass.
Erie Pump & Equipment Co., Erie, Pa.
Holland Machine Co., New York, N. Y.
Keystone Pump & Well Engine Co., Beaver Falls, Pa.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Morris Machine Works, Baldwinville, N. Y.
Myers & Bros., F. E., Ashland, O.
Wood & Co., R. D., Philadelphia, Pa.
Worthington, Henry R., Harrison, N. J.

Pumps. (Air.)

Blakelee Mfg. Co., Du Quoin, Ill.

Pumps. (Air Lift.)

Sullivan Mehry Co., Chicago, Ill.

Pumps. (Boiler Feed.)

Alberger Pump & Condenser Co., New York, N. Y.
Blakelee Mfg. Co., Du Quoin, Ill.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Jeanneville Iron Works Co., Hazleton, Pa.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Murray Iron Works Co., Burlington, Ia.
Myers & Bros., F. E., Ashland, O.

Pumps. (Centrifugal.)

Alberger Pump & Condenser Co., New York, N. Y.
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Erie Pump & Equipment Co., Erie, Pa.
Holland Machine Co., New York, N. Y.
Jeanneville Iron Works Co., Hazleton, Pa.
Morris Machine Works, Baldwinville, N. Y.
Pacific Flush Tank Co., New York, N. Y.
Wood & Co., R. D., Philadelphia, Pa.
Worthington, Henry R., Harrison, N. J.

Pumps. (Deep Well.)

Cameron Steam Pump Wks., A. S., New York, N. Y.
Holland Machine Co., New York, N. Y.
Keystone Pump & Well Engine Co., Beaver Falls, Pa.
Layne & Bowler Co., Houston, Tex.

Pumps. (Dredging.)

Buffalo Steam Pump Works, Buffalo, N. Y.
Erie Pump & Equipment Co., Erie, Pa.
Holland Mch. Co., New York, N. Y.
Morris Machine Works, Baldwinville, N. Y.
Wood & Co., R. D., Phila., N. Y.

Pumps. (Hydraulic.)

Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Cardwell Machine Co., Richmond, Va.
Erie Pump & Equipment Co., Erie, Pa.
French Oil Mill Mchry. Co., The Piqua, O.
Holland Mch. Co., New York, N. Y.

Pumps. (Oil and Gasoline.)

Keystone Boiler & Fdry. Co., Columbia, Pa.

Pumps. (Steam.)

Alberger Pump & Condenser Co., New York, N. Y.
Blake & Knowles Steam Pump Works, East Cambridge, Mass.
Blakelee Mfg. Co., Du Quoin, Ill.
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Cameron & Barkley Co., Charleston, S. C.
Clayton Air Compressor Works, Cambridge, Mass.
Cook, A. D., Lawrenceburg, Ind.
Deane Steam Pump Co., Holyoke, Mass.
Fairbanks-Morse & Co., Atlanta, Ga.
Keystone Pump & Well Engine Co., Beaver Falls, Pa.
Murray Iron Works Co., Burlington, Ia.
Scranton Pump Co., Scranton, Pa.
Snow Steam Pump Works, The New York, N. Y.
Worthington, Henry R., Harrison, N. J.

Pumps. (Trench.)

Affiliated Manufacturers Co., Milwaukee, Wis.

Pumps. (Turbine Driven.)

Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Pumps. (Vacuum.)

Cameron Steam Pump Wks., A. S., New York, N. Y.

Pumps. (Water-works.)

Holland Mch. Co., New York, N. Y.

Pump Leathers.

Graton & Knight Mfg. Co., Worcester, Mass.

Punching and Shearing Machinery.

Bliss Co., E. W., Brooklyn, N. Y.

Purchasing Agents.

U. S. Purchasing Corporation, New York, N. Y.

Racks (For Pattern Storage.)

Merritt & Co., Camden, N. J.

Railroads. [See Industrial, Agricultural and Commercial Opportunities.]

Railroad Equipment and Supplies. (New and Second-hand.)

American Frog & Switch Co., Hamilton, O.
Bailey-Lobby Co., The, Charleston, S. C.
Birmingham Rail & Loco. Co., Birmingham, Ala.
Cincinnati Frog & Switch Co., Cincinnati, O.
Gard, Geo. B., Cincinnati, O.
Fairbanks-Morse & Co., Atlanta, Ga.
Foster Co., L. B., Pittsburgh, Pa.
Georgia Car & Locomotive Co., Atlanta, Ga.
Hirsch Rolling Mill Co., St. Louis, Mo.
Hoffman & Co., Inc., R. O., Baltimore, Md.
Hyde, Chas., Pittsburgh, Pa.
Kilby Frog & Switch Co., Birmingham, Ala.
Macleary, J. H., Suffolk, Va.
National Steel Rail Co., St. Louis, Mo.
Newhall Eng. Co., Geo. M., Philadelphia, Pa.
Read Co., Howard W., Philadelphia, Pa.
Robinson & Orr, Pittsburgh, Pa.
Sherwood, E. G., New York, N. Y.
Southern Iron & Equipment Co., Atlanta, Ga.
Steel Rail Supply Co., The, New York, N. Y.
Thaw & Williams, Cincinnati, Ohio.
United States Rail Co., Cumberland, Md.
Weir Frog Co., Cincinnati, O.
Wilson & Co., E. H., Philadelphia, Pa.
Wilson Mach. Co., Harold R., St. Louis, Mo.
Zelnicer Supply Co., Walter A., St. Louis, Mo.

Railroad Frogs & Switches.

American Frog & Switch Co., Hamilton, O.
Cincinnati Frog & Switch Co., Cincinnati, O.
Conley Frog & Switch Co., Memphis, Tenn.
Kilby Frog & Switch Co., Birmingham, Ala.
Newhall Engineering Co., Geo. M., Philadelphia, Pa.
Robinson & Orr, Pittsburgh, Pa.
Sweet's Steel Co., Williamsport, Pa.
Weir Frog Co., Cincinnati, O.

Rails. (Steel.)

Foster Co., L. B., Pittsburgh, Pa.
Franks, J. E., Atlanta, Ga.
Gulf States Steel Co., Birmingham, Ala.
Hirsch Rolling Mill Co., St. Louis, Mo.
Hoffman & Co., Inc., R. O., Baltimore, Md.
Hyde Bros. Steel & Rail Co., Pittsburgh, Pa.
Hyde, Chas., Pittsburgh, Pa.
Lackawanna Steel Co., Lackawanna, N. Y.
Levi & Co., Henry, Philadelphia, Pa.
Macleary, J. H., Suffolk, Va.
National Steel Rail Co., St. Louis, Mo.
Newhall Eng. Co., Geo. M., Philadelphia, Pa.
Republic Iron & Steel Co., Youngstown, O.
Robinson & Orr, Pittsburgh, Pa.
Sherwood, E. G., New York, N. Y.
Southern Iron & Equipment Co., Atlanta, Ga.
Steel Rail Supply Co., The, New York, N. Y.
Sweet's Steel Co., Williamsport, Pa.
Tennessee Coal, Iron & R. R. Co., B'gh'm, Ala.
United States Rail Co., Cumberland, Md.
Wilson & Co., E. H., Philadelphia, Pa.

Rail Braces, Crossings, etc. [See R. R. Frogs and Switches.]

Railings and Grilles. (Brass.)

Newman Mfg. Co., Cincinnati, O.

Railways. (Industrial.)

Chase Fdry. & Mfg. Co., Columbus, O.
Cincinnati Frog & Switch Co., Cincinnati, O.
Hunt Co., Inc., O. W., West New Brighton, N. Y.
Link-Belt Co., Nictown (Philadelphia), Pa.

Rams. (Hydraulic.) [See Hydraulic Ram.]

Reamers.

Morse Twist Drill & Mch. Co., New Bedford, Mass.

Reeds.

American Supply Co., Providence, R. I.

Refrigerating Machinery and Apparatus.

Huetteman & Oramer Co., The, Detroit, Mich.
Portsmouth Engine Co., Portsmouth, O.
Remington Machine Co., Wilmington, Del.
Viller Mfg. Co., Milwaukee, Wis.
Vogt Machine Co., Henry, Louisville, Ky.
York Mfg. Co., York, Pa.

Reinforcing Bars. [See Concrete Reinforcing Bars.]

River and Harbor Improvements. (Dredges, Dock, Wharves, etc.)

Globe Dredging Co., Savannah, Ga.

Road Expansion Joints.

Philip Carey Co., The, Cincinnati, Ohio.

Road Machinery.

Austin-Western Road Mch. Co., The, Chicago, Ill.
Buffalo Steam Roller Co., Buffalo, N. Y.
Erie Machine Shops, Erie, Pa.
Gallon Iron Works & Mfg. Co., The, Gallon, Ohio.
Holt Manufacturing Co., The, Peoria, Ill.
Kelly Springfield Road Roller Co., Springfield, O.
The Automatic Shovel Co., Lorain, Ohio.
Universal Road Mch. Co., Kingston, N. Y.
Western Wheel Scraper Co., Aurora, Ill.
Wheeling Mold & Fdry. Co., Wheeling, W. Va.

Roadmaking Materials.

Barrett Mfg. Co., Philadelphia, Pa.
Rocmac Road Corp. of America, Phila., Pa.
Standard Oil Co., Inc., Newark, N. J.
U. S. Asphalt Refining Co., New York, N. Y.

Road Binders.

Barrett Mfg. Co., Phila., Pa.
Standard Oil Co., Newark, N. J.
U. S. Asphalt Refining Co., New York, N. Y.

Road Roller. (Steam.)

Austin-Western Road Mch. Co., The, Chicago, Ill.
Buffalo Steam Roller Co., Buffalo, N. Y.
Erie Machine Shops, Erie, Pa.
Kelly Springfield Road Roller Co., Springfield, O.
Ohio Tractor-Roller Sales Co., Columbus, Ohio.
Universal Road Mch. Co., Kingston, N. Y.

Road Oil.

Gulf Refining Co., Pittsburgh, Pa.
Standard Oil Co., Inc., Newark, N. J.
U. S. Asphalt Refining Co., New York, N. Y.

Road Preservatives.

Barrett Mfg. Co., Philadelphia, Pa.
Gulf Refining Co., Pittsburgh, Pa.
Standard Oil Co., Inc., Newark, N. J.
U. S. Asphalt Refining Co., New York, N. Y.

Road Scarifiers.

Buffalo Steam Roller Co., Buffalo, N. Y.
Gallon Iron Works & Mfg. Co., The, Gallon, Ohio

Rock Crushers. [See Crushers, Rock.]

Roller Covering Supplies.

American Supply Co., Providence, R. I.

Roofing. (Ready Prepared: Felt, Tar, Asbestos, Asphalt.)

American Sheet & Tin Plate Co., Pittsburgh, Pa.
Asbestos Protected Metal Co., Pittsburgh, Pa.
Barrett Mfg. Co., Philadelphia, Pa.
Cameron & Barkley Co., Charleston, S. C.
Chesapeake Roofing & Pipe Covering Co., Baltimore, Md.
John-Manville Co., H. W., New York, N. Y.

Roofing. (Metal Shingles.) [See Shingles, Metal.]

Cortright Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg. Co., The, Cincinnati, O.

Roofing. (Slate.)

East Bangor Connel, Slate Co., East Bangor, Pa.
Genuine Bangor Slate Co., East Bangor, Pa.
Johnson, E. J., New York, N. Y.
Standard Slate Corp., Esmond, Va.

Roofing and Siding. (Metal.)

American Sheet & Tin Plate Co., Pittsburgh, Pa.
Asbestos Protected Metal Co., Pittsburgh, Pa.
Cameron & Barkley Co., Charleston, S. C.
Cortright Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg. Co., The, Cincinnati, O.
Hyndman Roofing Co., Cincinnati, O.
Southern Sheet & Tin Plate Co., Ashland, Ky.
Steel Products Co., The, Savannah, Ga.
Tennessee Metal Culvert Co., Nashville, Tenn.
Whitaker-Glessner Co., Portsmouth Works, Portsmouth, Ohio.
Youngstown Sheet & Tube Co., Youngstown, O.

Rope. (Manila, Sisal, Hemp, etc.)

Broderick & Bascom Rope Co., St. Louis, Mo.
Columbian Rope Co., Auburn, N. Y.
Waterbury Co., New York, N. Y.
Wood's Sons Co., T. B., Chambersburg, Pa.

Rope. (Wire.)

Broderick & Bascom Rope Co., St. Louis, Mo.
Hunt Co., Inc., O. W., West New Brighton, N. Y.
Waterbury Co., New York, N. Y.

Rope Drives.

Caldwell & Son, H. W., Chicago, Ill.
Cresson-Morris Co., Philadelphia, Pa.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Waterbury Co., New York, N. Y.
Wood's Sons Co., T. B., Chambersburg, Pa.

Rubber Goods.

Eureka Fire Hose Mfg. Co., New York, N. Y.

Rules. (Steel.)

Lufkin Rule Co., Saginaw, Mich.
Starrett Co., L. S., Athol, Mass.

Sales and Vaults.

York Safe & Lock Co., York, Pa.

Sand.

Arundel Sand & Gravel Co., Baltimore, Md.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.

Sand. (Foundry.)

Newport Sand Bank Co., Inc., Newport, Ky.

Sand Dryers.

Ripley Foundry & Mach. Co., The, Ripley, Ohio.

Sap Stain Preventive.

Church & Dwight Co., New York, N. Y.

Sash Chain.

Niagara Falls Metal Stamping Works, Niagara Falls, N. Y.

Saws.

Gerlach Co., Peter, Cleveland, O.
Huth Bros. Saw Mfg. Co., Inc., Rochester, N. Y.
Smith Machine Co., H. B., Smithville, N. J.

Saws. (Band.)

Smith Machine Co., H. B., Smithville, N. J.

Saws. (Hack.)

Starrett Co., L. S., Athol, Mass.

Sawmill Dogs.

Soule Steam Feed Works, Meridian, Miss.

Sawmills.

Gainesville Iron Works, Gainesville, Ga.
Gibbs Machinery Co., Inc., Columbia, S. C.
Knight Mfg. Co., Canton, O.
Lane Mfg. Co., Montpelier, Vt.

Sawmill Machinery.

Bailey-Lobby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Chase Turbine Mfg. Co., Orange, Mass.
Knight Mfg. Co., Canton, O.
Lane Mfg. Co., Montpelier, Vt.
Mecklenburg Iron Works, Charlotte, N. C.
Schofield Iron Works, Macon, Ga.
Southern Engine & Boiler Wks., Jackson, Tenn.

Saw Sharpeners.

Carborundum Co., Niagara Falls, N. Y.
Vitrified Wheel Co., Westfield, Mass.

Saw Sharpeners and Files. (Cotton Gin.)

Carver Cotton Gin Co., East Bridgewater, Mass.

Sawing Outfits. (Contractors and Industrial.)

Rutland Foundry & Machine Co., Bennington, Vt.

Scales.

Standard Scale & Supply Co., Pittsburgh, Pa.

Screens. (Fly, Window and Door.)

Cincinnati Mfg. Co., Cincinnati, O.
New Jersey Wire Cloth Co., Trenton, N. J.

Screens. (Mining, Stone, etc.)

Erdle Perforating Co., Rochester, N. Y.
Hendrick Mfg. Co., Carbondale, Pa.
Jeffrey Mfg. Co., Columbus, O.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Mundt & Sons, Charles, Jersey City, N. J.
New Jersey Wire Cloth Co., Trenton, N. J.

Screenings. (For Concrete and Road Construction.)

American Ballast Co., Knoxville, Tenn.

Screws. (Machine.)

Progressive Mfg. Co., Torrington, Conn.

Screws. (Safety Set.)

Allen Manufacturing Co., Inc., Hartford, Conn.

Screw Machine Products.

Progressive Mfg. Co., Torrington, Conn.

Separators. (Dust.)

Buffalo Forge Co., Buffalo, N. Y.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Sewer Flushing Siphons.

Pacific Flush Tank Co., New York, N. Y.

Sewer Joint Compounds.

Pacific Flush Tank Co., New York, N. Y.

Sewer Pipes. (Vitrified.)

Bannon Pipe Co., P., Louisville, Ky.
Blackmer & Post Pipe Co., St. Louis, Mo.
Cannelton Sewer Pipe Co., Cannelton, Ind.
Owensboro Sewer Pipe Co., Owensboro, Ky.
Pomona Terra-Cotta Co., Pomona, N. C.
Southern Sewer Pipe Co., Birmingham, Ala.
Stevens Sons Co., H., Macon, Ga.

Sewer Pipe and Drains. (Monolithic Concrete.)

Requarth Co., O. W., Charlotte, N. C.

Sewer Supplies.

Clarksville Fdry. & Mach. Works, Clarksville, Tenn.

Sewage Pumping and Disposal Apparatus.

Pacific Flush Tank Co., New York, N. Y.

Shafting. (Cold Rolled Steel.)

American Steel & Wire Co., Chicago, Ill.

Shafting. (Polished Steel.)

Jones & Laughlin Steel Co., Pittsburgh, Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Pardee Works, O., Perth Amboy, N. J.
Republic Iron & Steel Co., Youngstown, O.
Union Drawn Steel Co., Beaver Falls, Pa.

Shafting. [See Pulleys, Shafting and Hangers.]

Sharpening Stones.

Carborundum Co., Niagara Falls, N. Y.
Vitrified Wheel Co., Westfield, Mass.

Sheet, Brass and Copper.

McKenna Bros. Brass Co., Pittsburgh, Pa.

Sheet Metal Work.

Atlas Metal Works, Dallas, Tex.
Danzon Metal Works, Hagerstown, Md.
Dixie Culvert & Metal Co., Atlanta, Ga.
Lone Star Culvert Co., Houston, Tex.
McMillan Bros., Jacksonville, Fla.
Niagara Falls Metal Stamping Works, Niagara Falls, N. Y.
Salisbury Metal Culvert Co., Salisbury, N. C.
South Atlantic Blow Pipe & Sheet Metal Co., Savannah, Ga.
Steel Products Co., The, Savannah, Ga.
Tennessee Metal Culvert Co., Nashville, Tenn.
Virginia Metal & Culvert Co., Roanoke, Va.
Voigtmann & Co., Chicago, Ill.

Sheet Metal Working Machinery.

Bliss Co., E. W., Brooklyn, N. Y.

Sheet Steel and Iron.

American Sheet & Tin Plate Co., Pittsburgh, Pa.
Cincinnati Iron & Steel Co., Cincinnati, O.
La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Youngstown, O.
Southern Sheet & Tin Plate Co., Ashland, Ky.
Tennessee Coal, Iron & R. R. Co., B'gh'm, Ala.
Whitaker-Glessner Co., Portsmouth Works, Portsmouth, Ohio.
Wood Iron & Steel Co., Alan, Philadelphia, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.

Shelving. [(Steel) Vanit, Store, Etc.]

Merritt & Co., Camden, N. J.
Van Hurling, J. M., Atlanta, Ga.

Shingles. (Metal.)

Cortright Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg. Co., Cincinnati, O.
Hyndman Roofing Co., Cincinnati, O.
Southern Sheet & Tin Plate Co., Ashland, Ky.

Shop Furniture. (Steel.)

Merritt & Co., Camden, N. J.

Shovels. (Special for Any Purpose.)

Conneaut Shovel Co., The, Conneaut, Ohio.

Shovels. (Steel, Brass, Aluminum, etc.)

Conneaut Shovel Co., The, Conneaut, Ohio.

Shutters. (Iron.)

Bolles Iron & Wire Works, J. E., Detroit, Mich.
Chesapeake Iron Works, Baltimore, Md.

Shutters. (Steel Rolling.)

Steel Buildings. (Designers, Builders.)
Amer. Bridge Co., of New York, N. Y.
Belmont Iron Works, Philadelphia, Pa.
Case Crane & Engineering Co., Columbus, Ohio.
Champion Bridge Co., Wilmington, O.
Chesapeake Iron Works, Baltimore, Md.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Phoenix Iron Co., Philadelphia, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Richmond Structural Steel Co., Richmond, Va.
Schreiber & Sons Co., The L., Cincinnati, O.
Speed Architectural Iron Works, Louisville, Ky.
Turner, O. A. P., Minneapolis, Minn.
Virginia Bridge & Iron Co., Roanoke, Va.

Steel Castings.
Crucible Steel Castings Co., Lansdowne, Pa.
Hoffman & Co., Inc., R. O., Baltimore, Md.
Riverside Steel Casting Co., Newark, N. J.

Steel Plate Work.
Casey-Hedges Co., Chattanooga, Tenn.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Coatesville Boiler Works, Coatesville, Pa.
Hoffman & Co., Inc., R. O., Baltimore, Md.
Memphis Steel Construction Co., Memphis, Tenn.
Phoenix Iron Co., Philadelphia, Pa.
Struthers-Wells Co., Warren, Pa.

Steel Protector. (Concrete Curb, Steps, etc.)
[See Curb Protector Steel.]

Steel Sheet Piling.
Franks, J. E., Atlanta, Ga.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Lackawanna Steel Co., Lackawanna, N. Y.

Stencils.
Baltimore Office Supply Co., Baltimore, Md.

Stills. (Turpentine.)
McMillan Bros., Jacksonville, Fla.

Stirrups. (Building.)
Chesapeake Iron Works, Baltimore, Md.

Stock Certificates, Bonds and Seals.
Baltimore Office Supply Co., Baltimore, Md.

Stock Room Racks, Bins, Etc.
Merritt & Co., Camden, N. J.

Stokers. (Hand.)
Huber Grate Bar & Stoking Co., Baltimore, Md.

Stokers. (Mechanical.)
Rabcock & Wilcox Co., New York, N. Y.
Westinghouse Machine Co., Pittsburgh, Pa.

Stone. (Building.)
Atlantic Stone Co., Atlanta, Ga.
Bedford Steam Stone Works, Bedford, Ind.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.

Stone. (Crushed.) [See Crushed Stone.]

Stone and Gravel Plants.
Weller Mfg. Co., Chicago, Ill.

Storage Batteries.
Elec. Storage Battery Co., The, Philadelphia, Pa.
Westinghouse Machine Co., Pittsburgh, Pa.

Strapping Leather.
Laton & Knight Mfg. Co., Worcester, Mass.

Structural Steel and Iron.
Allegheny Steel Co., Pittsburgh, Pa.
Amer. Bridge Co. of New York, N. Y.
Belmont Iron Works, Philadelphia, Pa.
Bourne-Fuller Co., The, Cleveland, Ohio.
Case Crane & Engineering Co., Columbus, Ohio.
Champion Bridge Co., Wilmington, O.
Chesapeake Iron Works, Baltimore, Md.
Chicago Bridge & Iron Works, Chicago, Ill.
Cincinnati Iron & Steel Co., Cincinnati, O.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Dietrich Bros., Baltimore, Md.
East St. Louis Bridge Co., East St. Louis, Ill.
Granger & Co., Louisville, Ky.
Greenspan & Sons Iron & Steel Co., Jos., St. Louis, Mo.
Hoffman & Co., Inc., R. O., Baltimore, Md.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Lackawanna Steel Co., Lackawanna, N. Y.
Memphis Steel Construction Co., Memphis, Tenn.
Phoenix Iron Co., Philadelphia, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Republic Iron & Steel Co., Youngstown, O.
Richmond Structural Steel Co., Richmond, Va.
Scaife & Sons Co., Wm. B., Pittsburgh, Pa.
Schreiber & Sons Co., The L., Cincinnati, O.
Speed Architectural Iron Works, Louisville, Ky.
Southern Sheet & Tin Plate Co., Ashland, Ky.
Steel Products Co., The, Savannah, Ga.
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.
Vincennes Bridge Co., Vincennes, Ind.
Virginia Bridge & Iron Co., Roanoke, Va.

Stump Pullers.
Zimmerman Steel Co., Lone Tree, Iowa.

Sulphur.
Union Sulphur Co., New York, N. Y.

Super-Heaters. (Steam.)
Rabcock & Wilcox Co., New York, N. Y.
Power Specialty Co., New York, N. Y.

Surveying Instruments.
Weber & Co., F., Philadelphia, Pa.

Sweeping Compound.
Kildust Co., Rome, Ga.

Swinging Engines.
Dake Engine Co., Grand Haven, Mich.

Switchboards, Switches, etc.
General Electric Co., Schenectady, N. Y.

Switches. (See Railroad Frogs and Switches.)

Switchstands.
Weir Frog Co., Cincinnati, O.

Tackle Blocks. (For Wire or Manila Rope.)
Broderick & Bascom Rope Co., St. Louis, Mo.

Talc and Soapstone Powders.
Georgia Talc Co., Asheville, N. C.

Tanks. (Iron and Steel.)
American Bridge Co., New York, N. Y.
American Water Softener Co., Philadelphia, Pa.
Caldwell Co., Inc., W. E., Louisville, Ky.
Casey-Hedges Co., Chattanooga, Tenn.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Chicago, Ill.
Coatesville Boiler Works, Coatesville, Pa.
Cole Mfg. Co., R. D., Newnan, Ga.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Dixie Culvert & Metal Co., Atlanta, Ga.
Hartley Boiler Works, Montgomery, Ala.
Hendricks Mfg. Co., Carbondale, Pa.
Kessler Co., E., Williamsport, Pa.
Keystone Boiler & Foundry Co., Columbia, Pa.
Lombard Iron Works, Augusta, Ga.
Lockport Boiler & Mfg. Co., Chattanooga, Tenn.
Memphis Steel Construction Co., Memphis, Tenn.
New York Central Iron Works Co., Hagerstown, Md.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Schaffeld Iron Works, Macon, Ga.
Struthers-Wells Co., Warren, Pa.
Tennessee Metal Culvert Co., Nashville, Tenn.
Twin City Boiler Works, Bristol, Va.-Tenn.
Virginia Bridge & Iron Co., Roanoke, Va.
Walsh & Weidner Boiler Co., Chattanooga, Tenn.

Tanks. (Wood.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Davis & Son, G. M., Palatka, Fla.

Tapes. (Measuring.)
Lufkin Rule Co., Saginaw, Mich.
Starrett Co., L. S., Athol, Mass.

Telephones. (Supplies, Equipment.)
Piedmont Electric Co., Asheville, N. C.
Western Electric Co., New York, N. Y.

Telephone Service.
American Telephone & Telegraph Co.

Tenoner. (Box and Crate.)
Chase Turbine Mfg. Co., Orange, Mass.

Terra-Cotta. (Ornamental.)
Atlanta Terra-Cotta Co., Atlanta, Ga.
Pomona Terra-Cotta Co., Pomona, N. C.
Southern Building Material Co., Norfolk, Va.
Stevens' Sons Co., H., Macon, Ga.

Threshers.
Cardwell Machine Co., Richmond, Va.

Tiering Machines. (Portable.)
Economy Engineering Co., Chicago, Ill.

Tile. (Drain.)
Oconee Brick & Tile Co., Milledgeville, Ga.

Tile. (Interior.)
Amer. Enam. Brick & Tile Co., New York, N. Y.

Tile. (Mantel and Promenade.)
Hood Brick Co., B. Mifflin, Atlanta, Ga.

Tile. (Structural.)
Oconee Brick & Tile Co., Milledgeville, Ga.

Timbers. (Crescoted.)
American Crescote Works, New Orleans, La.
Republic Crescoting Co., Indianapolis, Ind.

Tin and Terne Plates.
American Sheet & Tin Plate Co., Pittsburgh, Pa.

Tobacco Machinery.
Buckeye Iron & Brass Works, Dayton, O.
Cardwell Machine Co., Richmond, Va.

Tools. (Mechanists.)
Holland Mfg. Co., Erie, Pa.
Morse Twist Drill & Mch. Co., New Bedford, Mass.

Tools. (Mechanical.)
Starrett Co., L. S., Athol, Mass.

Tools. (Pneumatic.)
Chicago Pneumatic Tool Co., Chicago, Ill.

Tools. (Tinners.)
Danner Metal Works, Hagerstown, Md.

Torches.
Wall Mfg. Supply Co., P., Allegheny, Pa.

Towers. (Electric Transmission.)
American Bridge Co. of New York, N. Y.
Scaife & Sons Co., Wm. B., Pittsburgh, Pa.

Towers. (Steel and Wood.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Chicago, Ill.
Cole Mfg. Co., R. D., Newnan, Ga.
Columbia Pump & Well Co., Washington, D. C.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Memphis Steel Const. Co., Memphis, Tenn.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Track Material. (Steam & Industrial Railroad.)
Conley Frog & Switch Co., Memphis, Tenn.
Upon Not Co., Cleveland, O.

Traction Engines.
Fairbanks-Morse & Co., Atlanta, Ga.
Holt Mfg. Co., The, Peoria, Ill.
Ohio Tractor-Roller Sales Co., Columbus, Ohio.

Trailers for Trucks.
Troy Wagon Works Co., Troy, Ohio.

Trailers. (Motor Trucks.)
Troy Wagon Works Co., Troy, Ohio.

Tramway. (Overhead.)
Amburns Co. (Tramway Department), New York, N. Y.
Spidel, J. G., Reading, Pa.

Tramways. (Portable.)
Amburns Co. (Tramway Department), New York, N. Y.

Tramway. (Wire Rope.)
Amburns Co. (Tramway Department), New York, N. Y.

Transformers.
Crocker-Wheeler Co., Ampere, N. J.
Triumph Electric Co., Cincinnati, O.

Trench Excavator. [See Excavator (Trench).]

Trucks. (Dry Kiln.)
Moore Dry Kiln Co., L., Jacksonville, Fla.

Trucks. (Platform, Freight, Mill, Factory, etc.)
Bernstein Mfg. Co., Phila., Pa.
Chase Fdry. & Mfg. Co., Columbus, O.

Trucks. (Storage Battery Auto.)
Westinghouse Machine Co., Pittsburgh, Pa.

Trucks. (Storage Battery) [For Warehouses & Industrial Plants]
Kliew Parker Electric Co., The, New York, N. Y.

Trust Companies. [See Bankers and Brokers.]

Tubes. (Boiler.)
Allegheny Steel Co., Pittsburgh, Pa.
Cincinnati Iron & Steel Co., Cincinnati, O.
National Tube Co., Pittsburgh, Pa.

Tube Well Strainers.
Cook, A. D., Lawrenceburg, Ind.

Tabling.
La Belle Iron Works, Steubenville, O.
National Tube Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.

Turbines. (Hydraulic.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Davis Foundry & Machine Wks., Rome, Ga.
Lefel & Co., James, Springfield, O.
Salem Foundry & Machine Wks., Salem, Va.
Smith Co., S. Morgan, York, Pa.

Turbines. (Steam.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
General Electric Co., Schenectady, N. Y.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Terry Steam Turbine Co., Hartford, Conn.
Western Electric Co., New York, N. Y.
Westinghouse Machine Co., Pittsburgh, Pa.

Turn Buckles.
Broderick & Bascom Rope Co., St. Louis, Mo.

Turntables.
American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.

Twine.
Columbian Rope Co., Auburn, N. Y.

Important Information For Advertisers in Manufacturers Record

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When proof is required, two weeks in advance.
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TYPOGRAPHICAL ARRANGEMENT

We desire to use, as far as possible, uniform display type and borders and avoid the use of black background cuts. The uniform border is two-point plain rule for all spaces less than a full page.

Copy for advertisements other than those to be used in special departments should be prepared for two-column measure for spaces less than a quarter page; for a quarter page or larger, in two or four columns.

Tools. (Mechanists.)

Holland Mfg. Co., Erie, Pa.
Morse Twist Drill & Mch. Co., New Bedford, Mass.

Tools. (Mechanical.)
Starrett Co., L. S., Athol, Mass.

Tools. (Pneumatic.)
Chicago Pneumatic Tool Co., Chicago, Ill.

Tools. (Tinners.)
Danner Metal Works, Hagerstown, Md.

Torches.
Wall Mfg. Supply Co., P., Allegheny, Pa.

Towers. (Electric Transmission.)
American Bridge Co. of New York, N. Y.
Scaife & Sons Co., Wm. B., Pittsburgh, Pa.

Towers. (Steel and Wood.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Chicago, Ill.
Cole Mfg. Co., R. D., Newnan, Ga.
Columbia Pump & Well Co., Washington, D. C.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Memphis Steel Const. Co., Memphis, Tenn.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Track Material. (Steam & Industrial Railroad.)
Conley Frog & Switch Co., Memphis, Tenn.
Upon Not Co., Cleveland, O.

Traction Engines.
Fairbanks-Morse & Co., Atlanta, Ga.
Holt Mfg. Co., The, Peoria, Ill.
Ohio Tractor-Roller Sales Co., Columbus, Ohio.

Trailers for Trucks.
Troy Wagon Works Co., Troy, Ohio.

Trailers. (Motor Trucks.)
Troy Wagon Works Co., Troy, Ohio.

Tramway. (Overhead.)
Amburns Co. (Tramway Department), New York, N. Y.
Spidel, J. G., Reading, Pa.

Tramways. (Portable.)
Amburns Co. (Tramway Department), New York, N. Y.

Tramway. (Wire Rope.)
Amburns Co. (Tramway Department), New York, N. Y.

Unions.

Dart Mfg. Co., E. M., Providence, R. I.
National Tube Co., Pittsburgh, Pa.

Upholstering Material. (For Auto's & Furniture)
Du Pont Fabrikoid Co., Wilmington, Del.

Vacuum Cleaning Apparatus.
King Co., F. E., Norfolk, Va.
United Electric Co., The, Canton, O.

Valves.
Bourbon Copper & Brass Wks. Co., Cincinnati, O.
Columbian Iron Works, Chattanooga, Tenn.
Frick Co., The, Waynesboro, Pa.
Giamorgan Pipe & Fdry Co., Lynchburg, Va.
Jenkins Bros., New York, N. Y.
Lankenheimer Co., The, Cincinnati, O.
National Tube Co., Pittsburgh, Pa.
Powell Co., Wm., Cincinnati, O.
Pittsburgh Valve Fdry. & Const. Co., Pittsburgh, Pa.

Valve Boxes.
Clark Co., H. W., Mattoon, Ill.

Varnish.
Berry Bros., Detroit, Mich.

Veneer Machinery.
Titus, E. E., Petersburg, Va.

Ventilating Apparatus. (Engineers' and Contractors.)
Buffalo Forge Co., Buffalo, N. Y.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Vises.
Holland Mfg. Co., Erie, Pa.

Wagons. (Dump.)
Troy Wagon Works Co., The, Troy, O.
Western Wheeled Scraper Co., Aurora, Ill.

Wagons. (Reversible.)
The Troy Wagon Works Co., Troy, Ohio.

Wall Coping.
Southern Sewer Pipe Co., Birmingham, Ala.

Wall Plugs. (Galvanized.)
Niagara Falls Metal Stamping Works, Niagara Falls, N. Y.

Wall Ties.
Niagara Falls Metal Stamping Works, Niagara Falls, N. Y.

Washers. (Ore and Phosphate.)
Bailey-Lebby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

Washers and Rivets. [See Bolts, Nuts, Rivets Studs and Washers.]

Watchman's Clocks.
Watchman's Clock & Supply Co., New York, N. Y.

Water Filters. (See Filters, Water, etc.)

Waterproofing. (For Brick Work.)
Barrett Mfg. Co., Philadelphia, Pa.
McCormick Waterproof Portland Cement Co., St. Louis, Mo.

Waterproofing. (For Concrete.)
Barrett Mfg. Co., Philadelphia, Pa.
Johns-Manville Co., H. W., New York, N. Y.

Water-Softening Apparatus. (Purifying.)
American Water Softener Co., Philadelphia, Pa.
International Filter Co., Chicago, Ill.
N. Y. Cont. Jewell Filter Co., New York, N. Y.
Tucker & Laxton, Charlotte, N. C.

Water-Wheels. [See Turbines. (Hydraulic).]

Water-Works Construction.
Berry-Fortune Const. Co., Eatonton, Ga.

Water-Works Supplies and Appliances.
Allen-Scales Engineering Co., Nashville, Tenn.
American Cast Iron Pipe Co., Birmingham, Ala.
American Pipe & Const. Co., Philadelphia, Pa.
Bourbon Copper & Brass Wks. Co., Cincinnati, O.
Clark Co., H. W., Mattoon, Ill.
Clarksville Fdry. & Mach. Works, Clarksville, Tenn.
Clow & Sons, James H., Chicago, Ill.
Coldwell-Wilcox Co., Newburgh, N. Y.
Columbian Iron Works, Chattanooga, Tenn.
Donaldson Iron Co., Emaus, Pa.
Giamorgan Pipe & Foundry Co., Lynchburg, Va.
Keystone Pump & Well Engine Co., Beaver Falls, Pa.
Layne & Bowler Co., Houston, Tex.
Lynchburg Foundry Co., Lynchburg, Va.
Massillon Iron & Steel Co., Massillon, Ohio.
Pomona Terra-Cotta Co., Pomona, N. C.
Salem Fdry. & Machine Works, Salem, Va.
Standard Spiral Pipe Works, Chicago, Ill.
Stevens' Sons Co., H., Macon, Ga.
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.
Warren Foundry & Machine Co., New York, N. Y.
Wood & Co., R. D., Philadelphia, Pa.

Welding. (Oxy-Acetylene Process.)
Frost-O-Lite Co., Inc., The, Indianapolis, Ind.

Welding Plants. (Oxy-Acetylene.)
Milburn Co., Alex. N., Baltimore, Md.

Welding Apparatus. (Oxy-Acetylene Process.)
Frost-O-Lite Co., Inc., The, Indianapolis, Ind.

Welding Supplies.
Frost-O-Lite Co., Inc., The, Indianapolis, Ind.

Well Contractors. (Oil, Artesian, etc.)
Columbia Pump & Well Co., Washington, D. C.
Cook, A. D., Lawrenceburg, Ind.
Hughes Specialty Well Drill Co., Charleston, S. C.
Stothoff Bros., Flemington, N. J.

Well Tools and Supplies.
Cook, A. D., Lawrenceburg, Ind.
Keystone Pump & Well Engine Co., Beaver Falls, Pa.
Williams Bros., Itasca, N. Y.

Wheels and Axles.
Electric Wheel Co., Quincy, Ill.
Oliver Mfg. Co., W. J., Knoxville, Tenn.

Wheelbarrows and Carts.
Sterling Wheelbarrow Co., Milwaukee, Wis.

Window Frames and Sash. (Fireproof.)
Detroit Steel Products Co., Detroit, Mich.
Edwards Mfg. Co., The, Cincinnati, O.
Volkmann & Co., Chicago, Ill.
Wagner's Sons Co., J. F., Louisville, Ky.

Window Frame Machinery.
Phillips Mfg. Co., Orlando, Fla.

Window Guards. (Wire.) [See Wire Goods.]

Windmills.
Caldwell Co., Inc., W. E., Louisville, Ky.
Columbia Pump & Well Co., Washington, D. C.

Wire. (Barbed Wire, etc.)
American Steel & Wire Co., Chicago, Ill.
Cyclone Fence Co., Waukegan, Ill.
Roebeling's Sons Co., John A., Trenton, N. J.
Youngstown Sheet & Tube Co., Youngstown, O.

Wire. (Galvanized and Annealed.)
American Steel & Wire Co., Chicago, Ill.
Gulf States Steel Co., Birmingham, Ala.

Wire. (Galvanized Telephone.)
American Steel & Wire Co., Chicago, Ill.
Gulf States Steel Co., Birmingham, Ala.

Wire. (Plain Steel, Hoop, etc.)
Gulf States Steel Co., Birmingham, Ala.

Wire. (Signal.)
Safety Insulated Wire & Cable Co., New York, N. Y.

Wire Cloth. (Iron, Steel, Brass, etc.)
Caldwell & Sons Co., The, H. W., Chicago, Ill.
Eureka Supply Co., Chattanooga, Tenn.
Meyers Mfg. Co., The Fred J., Hamilton, O.
New Jersey Wire Cloth Co., Trenton, N. J.

Wire Goods.
Bolles Iron & Wire Wks., J. E., Detroit, Mich.
Cincinnati Mfg. Co., Cincinnati, O.
Dow Wire & Iron Works, Louisville, Ky.
Dufur & Co., Baltimore, Md.
Dufur, Baggett & Co., The Fred J., Hamilton, O.
New Jersey Wire Cloth Co., Trenton, N. J.

Wire Netting.
American Steel & Wire Co., Chicago, Ill.
New Jersey Wire Cloth Co., Trenton, N. J.

Wire Rope.
American Steel & Wire Co., Chicago, Ill.
Broderick & Bascom Rope Co., St. Louis, Mo.
Roebeling's Sons Co., John A., Trenton, N. J.
Waterbury Co., New York, N. Y.
Youngstown Sheet & Tube Co., Youngstown, O.

Wire Rope Clips.
American Steel & Wire Co., Chicago, Ill.
Broderick & Bascom Rope Co., St. Louis, Mo.

Wires and Cables. (Insulated.)
Safety Insulated Wire & Cable Co., New York, N. Y.

Wood Blocks. (For Paving and Factory Floors)
U. S. Wood Preserving Co., New York, N. Y.

Wood Distillation.
Struthers-Wells Co., Warren, Pa.

Wood Pipe. (For Water, etc.)
Wyckoff & Son Co., A., Elmira, N. Y.

Wood. (Preservative.)
Barrett Mfg. Co., Phila., Pa.
Reeves Co., The, New Orleans, La.

Woodworking Machinery.
Chase Turbine Mfg. Co., Orange, Mass.
Gibbs Mach. Co., Inc., Columbia, S. C.
Kline, Lewis T., Alpena, Mich.
Lane Mfg. Co., Montpelier, Vt.
Phillips Mfg. Co., Orlando, Fla.
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